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A Role Theoretical Model of Consumer Satisfaction With Professional Services.

Teri Root Shaffer
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A ROLE THEORETICAL MODEL OF CONSUMER SATISFACTION WITH PROFESSIONAL SERVICES

A Dissertation

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Louisiana State University and
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Doctor of Philosophy

in

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by
Teri Root Shaffer
B.A., University of California at Santa Barbara, 1981
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FORWARD

For Shafe

The best "bud" a woman could have in life

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ABSTRACT

The objectives of the dissertation were: 1) examine the relative influence of expectations, performance, and disconfirmation on satisfaction with professional services; 2) assess the relative influence of role based and non-role based dimensions of a professional service on satisfaction; 3) conceptualize and test the influence of consumer role constructs on satisfaction with professional services; and 4) examine the influence of involvement on satisfaction formation for professional services.

Prior to seeing their doctor, one hundred and thirty-one orthopedic patients completed a questionnaire concerning their expectations for their own role, the doctor's role, the staff's role, and access mechanisms (non-role based dimensions such as waiting time, parking spaces, etc.) Respondents completed a second questionnaire at home following their visit concerning perceptions of performance, disconfirmation, and satisfaction.

Four submodels of satisfaction formation were constructed to explain satisfaction with patient, doctor, staff, and access mechanisms performance. These submodels were tested separately via LISREL VI, and then integrated into an overall model of patient satisfaction.

The main premise of the dissertation research was that role based dimensions are more important predictors of satisfaction for professional services than non-role based dimensions. This proposition was supported. Findings regarding the relative influence of expectations, performance, and disconfirmation on satisfaction

formation were fairly consistent with the disconfirmation paradigm from the consumer product domain. Conclusions regarding the impact of consumer satisfaction with their own role on overall satisfaction were somewhat limited by multicollinearity among the satisfaction formation constructs. Findings regarding the influence of involvement on satisfaction formation were also inconclusive. Based on the dissertation results, role theory appears to be an useful conceptual perspective from which to model consumers' immediate satisfaction with professional services.

CHAPTER ONE

The Research Topic

Introduction

Consumers now spend just over half of their after-tax income on services such as travel, recreation, credit, product rentals and repairs, personal care, education, medicine, and shelter (Berman and Evans 1989). We are fast becoming a service economy. As with goods producers, the primary objective of service producers is to ensure their own economic survival through the development and provision of service offerings that satisfy consumer needs (Zeithaml 1981; Hill 1986). In order to attain this goal, service marketers must understand consumer evaluation processes. Most of what is known about consumer evaluation processes is based on product decisions. The typical outcomes of consumer evaluation processes for both products and services are thought to include: satisfaction/dissatisfaction, purchase, patronage, loyalty, and word-of-mouth activity. A growing body of literature supports the notion that the unique characteristics of services necessitate different evaluation processes (Berry 1980; Lovelock 1981; Zeithaml 1981; Gronroos 1982). Thus, while the outcomes of consumer evaluation processes for services may be similar to those for products, the components and role of evaluation processes differ between products and services and therefore deserve to be studied.

This dissertation focuses on explaining and predicting satisfaction/dissatisfaction outcomes of consumer evaluation processes for

professional services. A role theoretical model of consumer satisfaction is developed and tested in the context of health care services. The study investigates the influence of role expectations on role performance evaluations and consumer satisfaction. In addition, the potential mediating influence of customer involvement on performance evaluation processes and satisfaction formation is examined.

The first chapter provides a review of the distinctive features of services. Then, the characteristics of professional services are discussed, along with the resultant consequences for consumer evaluation processes. Next, the use of role theory as a conceptual framework within which to model satisfaction with professional health care services is presented. The proposed model of consumer satisfaction with professional services is discussed briefly, along with the expected contributions of the research. Finally, an outline of the dissertation is given.

Distinctive Features of Services

Several authors have attempted to identify the features that distinguish services from products (Rathmell 1974; Eiglier, Langeard, Lovelock, Bateson, and Young 1977; Shostack 1977; Liechty and Churchill 1979; Zeithaml 1981). From their research three service characteristics have been agreed upon. They include: (1) intangibility, (2) nonstandardization, and (3) inseparability.

Perhaps the most distinguishing characteristic of services is intangibility (Rathmell 1966, 1974; Judd 1968; Bessom 1973; Bateson 1977; Eiglier et. al. 1977; Shostack 1977; Uhl and Upah 1979; Berry 1980; Lovelock 1981). The concept of intangibility has two meanings: 1) that which cannot be touched, impalpable, and

2) that which cannot be easily defined, formulated, or grasped mentally (Berry 1980). The intangible nature of services makes it difficult for consumers to formulate firm expectations about service performance prior to the service experience. Intangibility may also make it difficult for consumers to make evaluations about the delivered service.

A second characteristic of services is heterogeneity or nonstandardization (Bessom and Jackson 1975; Berry 1980). For services that are "people-based" rather than "equipment-based", the human component involved in performing the service often creates variability in services outcomes which are not present in machine dominated services (Berry 1980). Nonstandardization of services increases the potential for customization, while at the same time increasing the potential for inconsistencies in service quality. Variations in service quality may arise from demand fluctuations, service perishability, and differential levels of contact employees' commitment, skill, and experience. Variability in service delivery means that the same service delivered at the same time, in the same place, and by the same firm may differ significantly both from one customer to the next, and for the same customer across encounters (Booms and Nyquist 1981). Since expectations about a service encounter are at least partially based on past experience (Parasuraman, Zeithaml, and Berry 1985), inconsistencies across service encounters may contribute to instability in consumer expectations and, consequently difficulty in achieving customer satisfaction.

A third characteristic of services is the inseparability of production and

consumption (Regan 1963; Gronroos 1978; Carmen and Langeard 1980; Upah 1980). The characteristic of simultaneity creates an intensive and complex customer/firm interface for services not found for most goods (Booms and Nyquist 1981). For services where no tangible object is exchanged and where service quality is difficult to measure, the provider-client interaction provides the experience that is essentially the service from the consumers' perspective (Friedman and Churchill 1987). In these service situations, the manner of service delivery may be the critical ingredient in producing consumer satisfaction. Inseparability of production and consumption also means that in contrast to products, the consumer is present during the production process. What is important to recognize about the presence of the consumer is that the consumer by his/her behavior will have an impact on the service delivered (Gronroos 1982). The quality of and satisfaction with many services will depend not only on provider performance but also on consumer performance.

Services Classification

Researchers have developed several approaches for classifying goods and services. For instance, Shostack (1977) suggests that goods and services be placed along an intangibility-tangibility continuum. Nelson (1970) suggested that goods can be distinguished in terms of two categories of attributes: search properties and experience properties. Search properties are attributes which a consumer can assess prior to purchase and consumption, whereas experience properties are attributes which can only be assessed after purchase and/or during consumption. Darby and

Karni (1973) add a third category of attributes: credence properties. Credence properties are attributes of a product or service which a consumer may find impossible to evaluate even after purchase and consumption. Relative to most products, most services tend to be high in experience and credence properties and low in search properties. Consequently, services are generally more difficult to evaluate than products. "Difficulty in evaluation, in turn, forces consumers to rely on different cues and processes when evaluating services" (Zeithaml 1981, p. 186). Cues for evaluating services are derived primarily from the physical environment of the service organization and the customer's interaction with the organization's personnel (Booms and Nyquist 1981).

Importance of Process Factors in Consumer Evaluation Processes for Services

Due to the evaluation difficulties described above, process factors often provide the dominating influence on consumers' perceptions of and satisfaction with services. In many service situations, the consumer lacks the skills necessary to evaluate the instrumental performance or technical competence of the service provider. As a consequence, the consumer must rely on the expressive performance of the service provider to make his/her evaluations. In the service context, the expressive performance relates to the buyer-seller interactions (Gronroos 1984). "In pure service situations where no tangible object is exchanged, and the service quality itself is difficult to measure (e.g. financial planning, health care), customer satisfaction and repeat patronage may be determined solely by the quality of the personal encounter" (Solomon, Surprenant, Czepiel, and Gutman 1985, p. 100). As

an example, patients incapable of evaluating a physician's medical diagnosis may base their evaluations on the physician's "bedside manner".

Professional Services

The characteristics of professional services make them particularly difficult for consumers to evaluate. Professional services tend to be high in both experience and credence properties and low in search properties. This means that most professional service attributes can only be evaluated during and/or after consumption and that some attributes are impossible for consumers to evaluate even after consumption. Many professional services can also be characterized by a provider-client information asymmetry. Professionals typically claim competence over a narrow and unique body of knowledge and skills. The client being unschooled in the esoteric knowledge to which the professional has access, presumably finds himself rendered incapable of evaluating the professional's technical competence (Segall and Burnett 1980). Often the content of a professional's response does not provide an immediate solution to a client's problem. This means that a consumer's assessment of technical competence can only be made over time. For instance, the correctness of a physician's diagnosis and treatment can be determined only with time (e.g. was the illness cured ?). The nature of professional services suggests that "the client's immediate satisfaction with professional service encounters will be a consequence of the mode of the professional's response rather than of its content" (Ben-Sira 1976, p. 5). That is, consumers' satisfaction with a particular service encounter will be determined largely by process rather than outcome factors.

There are several factors contributing to the importance of understanding consumer evaluation processes for professional services. First, as a subset of services, professional services now employ an estimated 4 million individuals (Gelb, Smith, and Gelb 1988). Thus, professional services represent a large portion of our economic activity. Second, professional services have been especially hard hit by increased competition (Webster in prep.). Faced with fierce competition, professionals are becoming increasingly sensitive to marketing issues. Third, among service marketers, professionals may have the most difficult task of creating client satisfaction (Gelb, Smith and Gelb 1988). For many professional services, the client may "have to" rather than "want to" purchase the service. In this situation, the client may bring fear and/or hostility to the purchase, thus making client satisfaction more difficult to obtain. Often a client is referred to or sent to the provider, rather than choosing him or her on their own. "Thus, professionals usually lack one advantage with which other marketers begin: a buyer who is predisposed in their favor because he or she selected them" (Gelb, Smith, and Gelb 1988, p. 2). Finally, because professional services are so poorly understood by most clients, a "job well done" in terms of the technical dimensions of the service may not be enough to create a satisfied buyer (Bloom 1984). Therefore, other dimensions of the service encounter (i.e., the process dimension) must also be managed to create client satisfaction.

Role Theoretical Analysis of Consumer Satisfaction

As Bloom (1984) suggests, clients of professional services often lack the

skills necessary to objectively evaluate the technical dimension of professional services. For this reason, consumers attempt to make judgements of a service based on other tangible cues. In a professional service setting, one of the more important cues available to consumers is their perception of the provider's overt behavior. The importance of behavioral dimensions for consumer evaluations of professional services makes these encounters particularly amenable to a role theoretical analysis of consumer satisfaction (Solomon, Surprenant, Czepiel, and Gutman 1985). That is, within the context of professional services, a comparison of customers' expectations of how a professional should or will act during a service encounter with a professional's actual role performance may provide a richer foundation from which to explain customer satisfaction than simply comparing service outcome expectations with performance. As an example, in the context of most health care services the service outcome is the treatment and/or cure of the patient's ailment. As was suggested earlier, consumers are often ill-equipped to immediately judge medical service outcomes. It can be argued then that patients largely base their immediate evaluation of a particular service encounter (i.e. a physician office visit) on their expectations and perceptions of the physician's behavior. For this reason, role theory appears to be an appropriate conceptual framework from which to model consumers' immediate satisfaction with professional service encounters.

Role theory is the study of the conduct associated with certain socially defined positions rather than of the particular individuals who occupy these positions (Solomon, Surprenant, Czepiel, and Gutman 1985). The focus of role theory is on

behaviors that can be typically expected of an occupant in a given position within a particular social content (Kretch, Crutchfield, and Ballachey 1962). Two theoretical constructs of primary importance in role theory are role expectations and role enactment. In the context of service encounters, Solomon, et. al. (1985) posit that satisfaction is a function of the congruence between behaviors expected by the role players (role expectations) and perceived behaviors (role performance or enactment).

Although the application of role theory to services marketing is relatively recent (Solomon, Surprenant, Czepiel, and Gutman 1985; Crosby and Cowles 1986; Gardner 1987), role theory is not new to marketing. Role theory has been applied to the study of role portrayals in advertising (Courtney and Lockeretz 1971; Wagner and Banos 1973; Sexton and Haberman 1974; Venkatesan and Losco 1975; Belkaoui and Belkaoui 1976; Duker and Tucker 1977), husband/wife decision making (Davis 1970; Cunningham and Green 1974, Green and Cunningham 1975) and personal selling (Kernan and Sommers 1966, 1967; Tosi 1966; Sommers and Kernan 1969; Calder 1977).

The Dissertation Research

Since Solomon et. al.'s (1985) earlier conceptual work, there have been few empirical investigations of service satisfaction from a role theoretical perspective. In one study investigating satisfaction with life insurance services, empirical support was found for the relationship between the contact person's role performance and customer interaction satisfaction (Crosby and Cowles 1986). Similarly, Day and Bodur (1978) found that the quality of provider performance (i.e. role performance)

was the most frequent reason given for customer satisfaction/dissatisfaction with various services. Gardner (1987) suggests that satisfaction is at least partially impacted by the difference between role expectations and role behavior for professional services. Thus, there is some empirical evidence suggesting that provider role performance and role disconfirmation are significant determinants of consumer satisfaction (Day and Bodur 1978; Crosby and Cowles 1986).

However, a review of the relevant research highlights a number of major deficiencies in the services literature. First, a systematic investigation of the structural relationships between role expectations, performance, disconfirmation, and satisfaction has not been conducted in the literature. Previous research has examined the influence of either provider performance or disconfirmation on consumer satisfaction, but not both. For this reason, little is known about the relative influence of expectations, performance, and disconfirmation on consumer evaluation processes for professional services.

Second, research examining the effects of consumers' expectations and perceptions of their own role on satisfaction is virtually nonexistent. "Since services are interactive, the customer's own performance is a causal variable affecting the outcomes that needs to be measured and controlled for in satisfaction monitoring" (Czepiel and Sabalava 1988, p. 12).

Finally, the influence of involvement on consumer evaluation processes for services has yet to be investigated. Research in the product satisfaction literature suggests that the relative influence of expectations, performance, and disconfirmation

on satisfaction will be at least partially determined by the consumer's level of involvement. Similar research in the context of services has not been empirically studied.

This dissertation attempts to address these deficiencies. The research presented here will: 1) systematically investigate the full set of interrelationships among expectations, performance, disconfirmation, and satisfaction for health care services, 2) utilize a role theoretical foundation to explain service satisfaction with health care services, 3) conceptualize and test the influence of consumer role expectations and behavior on satisfaction with health care services, and 4) examine the influence of involvement on satisfaction formation for health care services.

A Model of Consumer Satisfaction With Professional Services

For the most part, the product satisfaction literature has relied primarily on the disconfirmation paradigm to explain consumer satisfaction processes. Consistent with this tradition, the service literature has also adopted the disconfirmation paradigm to explain consumer satisfaction processes (Riordan, Oliver, and Donnelly 1977; Smith and Housten 1983; Parasuraman, Zeithaml and Berry 1985; Hill 1986; Baumgarten and Hensel in prep.; Brown and Swartz 1987). The disconfirmation paradigm as described by Churchill and Surprenant (1982) holds that:

> satisfaction is related to the size and direction of the disconfirmation experience and where disconfirmation is related to the person's initial expectations. More specifically, an individual's expectations are (1) confirmed when a product performs as expected; (2) negatively disconfirmed when the product performs more poorly than expected; and (3) positively disconfirmed when the product performs better than expected. Satisfaction will result when expectations are confirmed or positively disconfirmed (pp. 491-92).

Recent product satisfaction studies have focused on the structural relationships among expectations, performance, and disconfirmation (Oliver 1980; Churchill and Surprenant 1982; Oliver and Bearden 1983; Tse and Wilton 1988). Results from these studies suggest that satisfaction is directly influenced by expectations, performance and disconfirmation. The relative strength of influence of each construct may depend on mediating factors such as product type (Day 1977; Churchill and Surprenant 1982) and consumer involvement (Oliver and Bearden 1983; Barber and Venkatraman 1986).

In a recent article, Tse and Wilton (1988) extend the product satisfaction literature by examining multiple models of consumer satisfaction formation. The results of their laboratory study suggest that product expectations, disconfirmation and perceived performance all assume distinct roles in consumer satisfaction/ dissatisfaction (i.e. CS/D) formation and should therefore be modeled separately. Replicating Churchill and Surprenant's (1982) finding, perceived product performance was the most significant predictor of satisfaction in this study.

In addition, Tse and Wilton's results provide initial empirical evidence for the presence of multiple comparison standards. Expectations and ideal expectations appear to represent different constructs contributing separately to the CS/D formation process. Ideal expectations represent consumers' optimal performance whereas expectations represent consumers' anticipated performance. Tse and Wilton (1988) also found that subjective approaches (consumer's subjective evaluation of the difference between product performance and a comparison

standard) to model disconfirmation capture determinants of CS/D formation better than the often used subtractive approaches (algebraic difference between product performance and a comparison standard).

This dissertation incorporates Tse and Wilton's recent findings for product satisfaction into a role theoretical model of satisfaction for professional services. First, role expectations, performance, and disconfirmation are modeled separately. Since the model is from the consumers' perspective, the distinction is made between consumers' perceptions of their own role and consumers' perceptions of the provider's role. Second, multiple comparison standards are used. Both ideal role and expected role are examined individually.

Influence of Consumer Involvement on Satisfaction

Previous research suggests that the relative importance of expectations, performance and disconfirmation on consumer satisfaction/dissatisfaction formation may be influenced by a number of factors such as product type, and consumer involvement (Day 1977; Churchill and Surprenant 1982; Oliver and Bearden 1983). Several researchers found consumer evaluation processes to differ by product type. Disconfirmation was found to be the best predictor of satisfaction for nondurable goods, whereas product performance was found to be the best predictor of satisfaction for durable goods (Day 1977; Churchill and Surprenant 1982). Consumer involvement may also play an important role in satisfaction processes (Oliver and Bearden 1983; Barber and Venkatraman 1986). According to Oliver and Bearden (1983) high involvement decreases one's sensitivity to pre-usage

phenomena (i.e., expectations) and increases one's sensitivity to outcome phenomena (i.e., performance). Low involvement, in contrast, decreases consumers' motivation to process performance distinct from prior evaluations.

This dissertation study examines the effects of consumer involvement on satisfaction/dissatisfaction formation for professional services. It is likely that the level of consumer involvement will vary across different types of service situations. For instance, in the context of health care services, level of involvement may vary according to the degree of consumer experience, the type of care sought, the seriousness of the illness, the costs involved in care, and the personality of the person seeking care. In situations of high consumer involvement, it will be argued that the perception of role performance exerts the dominating influence on consumer satisfaction. In contrast, in situations of lower consumer involvement role expectations and disconfirmation should primarily determine consumer satisfaction.

Contributions of the Research

In today's competitive marketplace, one way for professionals to gain a competitive edge is to adopt a "client-centered" approach with a view toward doing a better job of meeting consumer needs and maximizing consumer satisfaction (Connor and Davidson 1985). In order to adopt a customer orientation, professionals must first understand consumer evaluation processes for their services. This study attempts to increase our understanding of the determinants of consumer satisfaction with professional services.

The dissertation research makes a number of theoretical contributions to the

literature. The study provides an initial investigation of the structural relationships among ideal expectations, expectations, performance, disconfirmation and satisfaction for professional services. Understanding these relationships may enable us to better explain the influential elements underlying consumer satisfaction/dissatisfaction formation. Most researchers agree that a distinctive feature of services is the presence of consumers in the production and delivery of services. Yet empirical investigations of the influence of consumers' role on satisfaction evaluations is conspicuously absent from the literature. By explicitly incorporating consumer role constructs into a model of satisfaction, this study provides the first empirical investigation of the influence of consumer role expectations and performance on satisfaction/dissatisfaction processes for professional services. Finally, the study includes consumer involvement as an important mediating factor impacting consumer evaluation processes. Although a number of researchers have suggested that involvement (Barber and Venkatraman 1986) may influence consumer satisfaction processes for services, to date, empirical evidence is lacking.

The dissertation research also makes a number of managerial contributions. Empirical evidence for the relationship between consumer role expectations and satisfaction suggest that providers may either alter their expectations and behavior to match consumers' expectations or they may alter consumers' expectations to match their behavior. Altering their own behaviors and expectations can only occur if professionals are aware of the factors that consumers use to evaluate their services.

This study attempts to understand more fully the manner in which consumers use roles in making satisfaction evaluations.

One way for altering consumer expectations is through educational and/or promotional communications. Advertising campaigns, community workshops, and brochures may be used to inform consumers of what to expect in professional service encounters. Creating more realistic expectations through educational programs should provide foundations for continued patronage, client loyalty, favorable word-of-mouth activity and client referrals. It may be that the findings of this study suggest that some of the educational communications focus on altering consumer expectations of their own role. The role of involvement in consumer evaluation processes would suggest that expectation management is particularly important for low involvement encounters or routine visits.

It has been suggested that the joint assignment of roles occurs during the first encounter and persists throughout subsequent encounters (Solomon, Surprenant, Czepiel and Gutman 1985). This implies that service providers should actively solicit consumer role expectations during the initial service encounter. This helps develop a climate of realistic expectations and open communication. In the context of health care, this has been referred to as "the negotiated approach to patienthood" (Lazare, Eisenthal, Frank, and Stoeckle 1987). Active elicitation of consumer expectations will enable the professional to adapt the service encounter to meet individual needs and desires.

Findings indicating a disparity between consumers' notion of ideal roles and

expected roles would suggest areas in which professionals could do a better job of meeting consumer role expectations. A discrepancy between ideal expectations and expectations may also indicate areas in which consumers hold unrealistically high expectations. As previously discussed, communications may be needed to generate more realistic consumer expectations.

The importance of role performance to consumer satisfaction assessment suggests that practitioners focus their attention on the performance aspect of professional services. Since consumers have a difficult time evaluating the technical dimensions of professional services, they often confine their judgements to the mode of interaction. To increase consumer satisfaction, providers should concentrate their efforts on improving nontechnical dimensions of role performance such as caring behaviors or information-giving behaviors. The importance of these role dimensions suggest that in addition to technical training, professionals should be provided with training designed to improve communication and interpersonal skills. In situations of high involvement, performance management becomes particularly important.

Organization of the Study

This dissertation is divided into five parts. Chapter I provides a brief introduction to the study. Chapter II reviews literature in the following areas: role theory, satisfaction, and involvement. From the insights gained in both the literature review and selected theories, a model of consumer satisfaction with professional services is presented. In Chapter III, the methodology and research design are reviewed. Chapter III also includes findings from the questionnaire pretest. Chapter IV presents findings from the full study. And finally, Chapter V draws upon the findings to state conclusions and implications and to suggest future research directions.

CHAPTER TWO

Literature Review

The dissertation research develops a model of consumer satisfaction with professional services and tests it within the context of health care services. The purpose of this chapter is to review the literature relevant to the dissertation topic, identify major issues in the body of research, and state hypotheses of the proposed model.

The plan of Chapter Two is as follows:

1) Review relevant research in the areas of role theory, consumer product satisfaction, service quality/satisfaction, patient satisfaction, and involvement. The proposed role theoretical model of consumer satisfaction with health care services will be presented following a critical review of the literature.

2) Examine and review model constructs in light of consumer satisfaction formation for professional services, in particular health care services.

3) Summarize the findings and issues in the literature reviewed in the chapter. State the model hypotheses.

Role Theory

Role theory is an approach based on the dramaturgical metaphor. Dramaturgy has its roots in the Symbolic Interactionist school of thought. The fundamental premise underlying this school of thought is that man is a symbol user

who strives to create and maintain a definition of reality to which others respond. As a 'subtheory' of this perspective, dramaturgy cloaks social interaction in a theoretical framework utilizing terms and concepts familiar to a dramatic production. The focus of dramaturgy is on the strategies and actions required to create and maintain a favorable impression before an audience. This may be accomplished through successful management of 'expression given off' by the actors and their physical surroundings (Goffman 1959; Grove and Fisk 1983).

A role theoretical perspective emphasizes people as social actors who learn roles or clusters of behaviors appropriate to the many positions they occupy in society. "Role, a term borrowed directly from the theater, is a metaphor intended to denote that conduct adheres to certain "parts" (or positions) rather than to the players who read or recite them" (Sarbin and Allen 1968, p. 489). The emphasis of role theory is on overt social conduct expected of and associated with certain socially defined positions rather than of the particular individuals who occupy those positions (Kretch, Crutchfield, and Ballachey 1962; Solomon, et. al. 1985). The constructs of role expectations and role performance are fundamental to role theory.

Role Expectations

Role expectations provide the conceptual bridge between role behavior and social structure (Sarbin and Allen 1968). Role expectations can be defined as "collections of cognitions-beliefs, subjective probabilities, and elements of knowledge- which specify in relation to complementary roles the rights and duties, the appropriate conduct, for persons occupying a particular position" (Sarbin and

Allen 1968, p. 498). Roles within a social structure are highly interdependent. Expected behaviors for one role player must take into account the behavior of other role players. The totality of complementary roles related to a given role is referred to as a role set (Merton 1957). For example, a role set for a physician would include such complementary roles as patient, nurse, medical technician, and office employee. The role expectations of a physician are then reciprocal to these complementary roles, meaning as the physician gives orders, the nurse follows them.

Role expectations may differ in content as a function of the viewpoint of the person assessing the role expectations. For this reason, it is useful to distinguish between role expectations held by the role occupant and role expectations held by occupants of complementary positions. For any given role performer, we can distinguish between: (a) the role performer's definition of his/her own rights and duties (role conception), (b) his/her estimate of the way other role players with whom he/she interacts defines his/her rights and duties, (c) others' definition of the rights and duties of the role performer, and (d) the role performer's definition of the rights and duties of occupants in complementary positions. Once again we see the interdependent nature of social roles. Behavior will result from a role player's definition of his/her own rights and duties and from his/her definition of the rights and duties of others.

Role expectations provide more than guidelines for behavior. They specify not only what actions a given role player is expected to perform, but also the

manner in which these actions are to be performed. In other words, role expectations operate as imperatives pertaining to a person's conduct and attitudes while he enacts a role. By specifying "how", "should" and "is", these imperatives ensure that the role enactment will be appropriate (Sarbin and Allen 1968).

Role expectations also tend to facilitate social interaction by providing role players with a means of predicting one another's behavior. In role theoretic terms, this is referred to as "taking the role of the other" (Mead 1935). "Taking the role of the other" is a empathetic process which allows role performers to anticipate others' expected role behavior. This also enables the role performer to adapt his/her own behavior to the predicted behavior of others (Rose 1962). For example, a client of H & R Block anticipates the tax preparer's request for records, and consequently adapts his/her own behavior by bringing relevant records to the first meeting.

Effects of Role Expectations on Role Performance

Role expectations influence role performance by inducing conformity to group norms (Sarbin and Allen 1968). Conformity may be brought about through overt pressure from others, role commitment, sensitivity to the reactions of others, and imitation.

Role expectations specify "appropriate" behaviors for an occupant in a given position within some social context. Role expectations suggest that an occupant of a social position ought to do particular things in specified ways and ought to hold specific beliefs. The normative aspect of expectations reflects the evaluative nature of roles. The evaluative character of role expectations implies that approval or

disapproval by other people will depend largely on whether one's role performance conforms to their expectations.

Conformity to role expectations may result from the overt pressure of significant others or third parties. Role structure enhances the influence of role expectations on role enactment. Role structure simply means that some of the roles one plays in society are interrelated. Failure in one role may cause failure in other related roles. This can create a situation where sanctions emanate from more than one complementary role performer thereby increasing the pressure to conform to role expectations. Willingness to conform to group norms will be particularly strong when the role performer is committed to the role.

Role commitment and overt conformity pressures are not the only mechanisms by which role expectations influence role enactment. Role expectations also influence persons with whom a role performer interacts. Occupants of complementary positions will interpret and react differently to a role performer's behavior according to whether or not it is perceived as conforming to role expectations. Approval/disapproval of the role performer's behavior is conveyed through verbal and nonverbal communications. For instance, disapproval of the role performer's behavior may be expressed through a verbal reprimand as well as a nonverbal facial expression. A customer at a restaurant expecting to be served and then left alone, may convey his/her disapproval of a waiter's chit-chat verbally with "Thank you, that will be all!" and/or nonverbally with a scornful facial expression. Thus, a role performer may conform to role expectations because of a sensitivity to

the reactions of others.

Finally, conformity may result through imitation. By observing the role behavior of others, both in similar positions and in complementary positions, a role player may gain insight into what behaviors are appropriate for his/her position (Stouffer and Toby 1951). A novice to a self-serve gas station, for instance, may watch other customers and employees to determine what is expected of a self-serve customer. S/he may notice that the employees' primary role is to take payments from customers and that customers are responsible for all other behaviors (i.e., turning on the pump, pumping gas, checking oil, etc.).

Summary

The existence of a relatively standardized set of behaviors associated with a given social position makes it possible to study the structure and content of roles apart from the individuals who occupy those positions. Thus, the emphasis of role theory is on predicting and explaining behavior based on social structural variables rather than on individual difference variables.

Survey of Role Theory in Marketing

Until recently, the application of role theory in marketing has been limited primarily to the areas of role portrayals in advertising, marital decision making, and personal selling. (For a comprehensive review, see Wilson and Bozinoff 1980). More recently, role theory has been applied to the study of service encounters.

Role Portrayals in Advertising

In the studies investigating role portrayals in advertising, role theory has been

applied on such a global level as to make them of limited use. None of the articles define the term "role" (Belkauoui and Belkauoui 1976; Courtney and Lockeretz 1971; Duker and Tucker 1977; Sexton and Haberman 1974; Venkatesan and Losco 1975; Wagner and Banos 1973). In these articles, role generally refers to a stereotype of a life role:

> This global life role approach stresses more of the simple labeling of the role such as 'mother' or 'sex object' rather than the expectations of those roles in terms of behavior. Given that a role is a cluster of behavioral expectations, roles should be defined beyond simplistic labels" (Wilson and Bozinoff 1980, p. 118).

None of the studies of role portrayals in advertising have investigated whether there exists a common set of behavioral expectations for these stereotypic life roles. Failure to define role portrayals in terms of behavioral expectations limits one's ability to recognize and track broad social trends important to marketers.

Marital Decision Making Roles

The studies investigating marital decision making define roles in terms of behaviors (Davis 1970; Cunningham and Green 1974, Green and Cunningham 1975). However, most of these studies focus on actual behaviors rather than expected behaviors. The primary emphasis is on who decided when, where, etc., to buy a product. A richer application of role theory would consider the effects of both role expectations and role performance. One might also examine the process of role assignment for marital decision making, as well as the influence of role consensus on satisfaction with marital decision making, with product/service choice, store choice, etc. Wilson and Bozinoff (1980) suggest that an interesting study

might involve eliciting expected behaviors of dyadic partners in different situations and then clustering these behaviors into recognizable roles such as "purchaser", "information gatherer" and "influencer".

Roles in Personal Selling Interactions

Applications of role theory to study role portrayals in advertising failed to define roles in terms of behaviors and failed to consider the influence of role expectations on behavior. Applications of role theory to study husband/wife decision making defined roles in terms of behaviors but failed to consider role expectations. Consistent with sociological and social psychological research, "roles" in the personal selling studies have been defined in terms of expectations, norms, and activity patterns. In one of the earlier studies, Evans (1963) found that successful insurance agents fulfilled customer's expectations concerning similarity, expertise, friendliness, and personal interest.

In another study, Tosi (1966) attempted to relate role consensus to job performance criteria. "Role consensus may be defined as the extent of agreement between parties regarding behavior pertinent to a given situation" (Tosi 1966, p. 518). The concept of role consensus represents the degree to which people agree on the normative aspects of behavior. Both wholesale drug salespeople and retail pharmacists were questioned with respect to what salespeople should do while performing the selling task. Although, Tosi did not find the hypothesized relationship between role consensus and performance (as measured by percentage of business or number of suppliers), the study is interesting for several other reasons.

First, this study, unlike many other role theoretical studies in marketing, describes in detail the types of behaviors which comprise the wholesale drug salesperson's role. Through a detailed description of behaviors, Tosi (1966) was able to operationalize the role of salespeople.

Secondly, Tosi suggests that role consensus or the mere agreement between the buyer and seller with respect to normative behavior is not the critical determinant of satisfaction. "It is more important that the customer's perceptions of the salesman's 'actual' performance are consistent with his 'ideal' perceptions of salesman's performance" (Tosi 1966, p. 525). Thus, Tosi implies the potential use of a disconfirmation approach to satisfaction.

Riordan, Oliver and Donnelly (1977) found support for the relationship between role congruence and salesperson performance. The definition of role congruence used in this study however, differs from that of Tosi (1966). Riordan, Oliver, and Donnelly (1977) define role congruence strictly from the consumer's perspective. It is defined as the absolute difference between a consumer's perceptions of actual and ideal insurance agents. When defined as such, role congruence was found to be a significant discriminator of consumer purchase behavior for insurance policies. This provides additional support for Tosi's (1966) conclusion. It would appear that success of a salesperson is better predicted by the match between a customer's perceptions of actual and ideal role performance than the match between a salesperson and a customer's perceptions of what "should" be done in the selling situation.

Summary

The contribution of role theory to the study of role portrayals in advertising, marital decision making, and personal selling interactions is contingent upon the operationalization of the role concept. If one is to use role theory as a theoretical framework for empirical research, a caveat is in order. Roles must be richly described in terms of specific activities and behaviors that, after all, make up the roles themselves (Wilson and Bozinoff 1980). Roles should also be described in terms of expectations, performance, and consensus among role players.

Applications of the Dramaturgical Metaphor in Services Marketing

Recently, a number of approaches based on the dramaturgical metaphor have been suggested as useful frameworks for studying service interactions. As a review, dramaturgical approaches cloak the service encounter in a theoretical framework utilizing terms and concepts familiar to a dramatic production. Lovelock (1981) contends that service marketers must assume "dramatists and choreographer" roles. Grove and Fisk (1983) examine the applicability of dramaturgy to the study of services marketing. Smith and Housten (1983) propose a consumer evaluation process based on the concept of service scripts. Solomon, Surprenant, Czepiel, and Gutman (1985) develop a role theoretical perspective for studying dyadic interactions in the service encounter. All of these approaches rely to some extent on the dramaturgical metaphor. Grove and Fisk (1983) discuss three dramaturgical components of service performance:

1) setting-combination of effects offered by decor, furnishings, and physical layout.

2) personal front-aspects of the service providers' personal appearance and manner.
3) impression management-service providers' performance.

Grove and Fisk (1983) suggest that each of these dramaturgical components of the service performance has potential symbolic meaning for the consumer, and may therefore be influential in creating consumer satisfaction.

Although script based approaches for studying service encounters arise from the work in cognitive psychology, many cognitive psychologists also rely on the heuristic value of the dramaturgical metaphor. Central to cognitive psychology is the concept of schema: "a unit of generic knowledge about some stimulus domain which is stored in memory and guides the processing of information about any particular instance of that domain" (Smith and Housten 1983, p. 60). People develop schemata for different stimulus domains: object classes; people and personality types, social and occupational roles, and events. Smith and Housten (1983) propose an evaluation process for services that is based on expectations defined by event schemata or scripts. Smith and Housten (1983) suggest that service transactions be conceptualized as an event, composed of a set of ordered actions, actors, and objects.

While the previous research focused on event schemata to investigate consumer evaluations for services, Solomon, Surprenant, Czepiel, and Gutman (1985) present a theoretical framework for studying dyadic interactions based on role schemata. These authors assert that service encounters can be characterized as role performances. Viewing service transactions from a role theoretical perspective is

advantageous because:

> Role theory compels us to adopt an interactive approach since roles are defined in a social context. Furthermore, appropriate role enactment is determined by the reactions of others. The quasi-ritualized nature of role behavior makes it possible to examine the structure and content of interacting roles apart from the specific individuals occupying the roles" (Solomon, et. al. 1985, p. 108).

Summary

While all these approaches share in common the use of the dramaturgical metaphor, they differ in their emphasis and applicability. The dramaturgical framework reviewed by Grove and Fisk (1983) focuses on the entire dramatic production: the audience, the actors, the front stage, the back stage, and the performance. This perspective is most relevant to service organizations that serve many people simultaneously with a great deal of personal contact such as airlines, spectator sports and restaurants (Grove and Fisk 1983). Script-based approaches focus on the action sequences that comprise a service event. This approach is most relevant for routinized services that consumers have frequent exposure to such as restaurant dining and banking transactions (Smith and Housten 1983). A role theoretical approach emphasizes the roles people play in the service setting. This approach is most relevant for dyadic service interactions such as professional services (Solomon, Surprenant, Czepiel and Gutman 1985).

Applications of Role Theory in the Services Marketing Literature

Since Solomon (1985) et. al.'s earlier conceptual work, there have been several empirical investigations of consumer satisfaction from a role theoretical perspective. Results from these studies indicate that role theory holds promise as a

theoretical framework for studying satisfaction with services.

Surprenant and Solomon (1987) examined the influence of personalization strategies in a bank setting on service provider evaluations, service organization evaluations and service satisfaction. These authors contend that role definitions within a service setting will dictate the amount of personalization expected but not necessarily the way in which personalization is implemented. The effects of personalization will depend on such factors as the nature of the service being delivered, the behaviors included in the role script, and the particular personalization strategy implemented.

Results from the study indicated that option personalization, allowing the customer to choose from a set of alternatives, affected trust in the bank and satisfaction with the offering. Programmed personalization, embellishment of routinized actions with personal referents, exerted strong effects on evaluations of employee confidence and sociability, bank warmth and trust, and satisfaction with employee effectiveness and friendliness. Customized personalization, assisting the customer in attaining the best possible form of the service offered to fit their needs, had positive effects on the perceptions of employee helpfulness and sociability, bank warmth, and satisfaction with the friendliness of the service provider.

Crosby and Cowles (1986) examined the relationship between the contact person's role performance and the customer's interaction satisfaction. Borrowing from the personal selling literature, Crosby and Cowles (1986) suggest that a service provider's primary role is to solve the client's immediate and long term problems.

From this perspective, steps in the problem solving process might be viewed as the expectation and performance evaluation dimensions in a role consensus model.

Using predictor variables adapted from a problem solving approach, Crosby and Cowles (1986) were able to account for over 40% of the variance in customer satisfaction with life insurance salespersons. The role behaviors which contributed significantly to consumer satisfaction were: agent represents customer when conflict with company arise, agent explains different types of policies, agent identifies an array of policy alternatives, and agent recommends criteria for evaluating life insurance.

For her dissertation, Gardner (1987) conducted a series of case studies, focus groups, and personal interviews for the purpose of examining the relationship between consumer role expectations for service providers and consumer satisfaction with legal, accounting and dental services. Her research indicated that consumers make the distinction between ideal and probabilistic role expectations. Replicating earlier findings (Crosby and Cowles 1986), Gardner (1987) found provider role enactment to be an important determinant of consumer satisfaction for professional services. The aspects of provider role performance which appear to contribute most to consumer satisfaction are being on time, greeting the client in a warm and friendly manner, putting the client at ease, asking the client appropriate questions, answering all the clients questions, and specifying a time frame for job completion. Gardner (1987) also found preliminary evidence for a role theoretical model of professional service satisfaction based on the traditional disconfirmation paradigm.

She found that for the most part, consumer expectations matched the actual professional role behavior. When performance failed to match expectations however, consumers expressed dissatisfaction.

Summary

Results from these studies tend to support the viability of role theory as a conceptual framework from which to study dyadic service interactions. Gardner's research provides some conceptual insight into provider role determinants of consumer satisfaction for professional services. However, methodological limitations force the reader to consider these findings exploratory at best. Small consumer sample sizes ($n = 3$ for the case studies, $n = 21$ for the focus groups, and $n = 15$ for the personal interviews) limit one's ability to draw statistically powerful inferences based on the results of her studies. Sample selection is also of concern. Gardner required that her participants have some prior experience with the service in question. However, to participate in the focus groups, the respondents were not required to have purchased the service within any specified time period. To participate in the interviews, respondents were required to have purchased the service within the last two years. Consequently, the quality of her findings is based on the participant's ability to recall role expectations and perceptions of role performance over relatively long periods of time.

Another limitation of Gardner's studies is the simultaneous measurement of expectations, performance, and satisfaction. Oliver (1981) strongly recommends that expectations be measured prior to the shopping experience and product usage or

in this case, the service encounter. He warns that expectations can be measured in retrospect, but this approach introduces a subtle interaction between actual outcomes and prior expectancies.

Finally, Gardner fails to systematically and empirically investigate the relationship between satisfaction and various role theoretical constructs. She makes the distinction between ideal role expectations, probabilistic role expectations, and perceived role performance but she fails to investigate the independent effects of each on satisfaction.

Crosby and Cowles (1986) provide empirical evidence for the relationship between provider role performance and satisfaction. Although their findings suggest that role theory has potential value for predicting and explaining consumer satisfaction with services, their study is limited in that it only considers one linkage. An natural extension of this research would be a systematic investigation of the relationship between satisfaction and other role constructs, such as role expectations and satisfaction.

Research on product satisfaction has focused on the relationships among expectations, disconfirmation, perceived performance, and satisfaction. Research of this type has yet to be applied to services (Smith, Bloom, and Davis 1986). Insights into the determinants of satisfaction with professional services may be gained by adapting the findings of the product satisfaction literature to a role theoretical model of consumer service satisfaction. For this reason, the product satisfaction literature is now reviewed.

Traditional Satisfaction Literature

In the early 1970s consumer satisfaction emerged as an legitimate field of inquiry (Churchill and Surprenant 1982). Since then, research directed at predicting and explaining consumer satisfaction has been voluminous. The vast majority of this research has adopted the disconfirmation paradigm to explain consumer satisfaction/dissatisfaction formation. As described by Churchill and Surprenant (1982), the disconfirmation paradigm

> holds that satisfaction is related to the size and direction of the disconfirmation experience (and) where disconfirmation is related to the person's initial expectations. More specifically, an individual's expectations are (1) confirmed when a product performs as expected; (2) negatively disconfirmed when a product performs more poorly than expected; and (3) positively disconfirmed when a product performs better than expected (pp. 491-92).

As illustrated in Figure 2.1, the disconfirmation paradigm predicts that satisfaction will result when expectations are confirmed or positively disconfirmed.

Figure 2.1

The Disconfirmation Paradigm

Comparison of Performance and Expectations		
P > E	P = E	P < E
Positive Disconfirmation	Confirmation	Negative Disconfirmation
Satisfaction	Satisfaction	Dissatisfaction

The full disconfirmation paradigm encompasses four constructs:

expectations, disconfirmation, performance, and satisfaction. A review of relevant research for each of these four constructs follows.

Expectations

In one of the earliest studies investigating the effects of expectations and/or disconfirmation on product evaluations, Cardozo (1964) found that when performance expectations were negatively disconfirmed, (the product performed worse than expected), respondents rated the product lower than when performance expectations were confirmed (the product performed as expected). These findings seem to suggest that a contrast effect is operating. That is, consumers magnify the discrepancy between expectations and perceived performance so that the product is perceived as performing much better/worse than it was in actuality (Oliver 1977).

Olshavsky and Miller (1972, pp. 20-21) argue that a methodological artifact (incomparable scales for high and low expectation conditions) in Cardozo's (1965) study makes his findings suspect. In fact, with the exception of Cardozo (1964), the balance of the empirical research supports an assimilation effect rather than a contrast effect (Olshavsky and Miller 1972; Anderson 1973; Olson and Dover 1979). Evidence for an assimilation effect means that consumers perceive discrepant product performance in the general vicinity of their expectations.

Olshavsky and Miller (1972) found that subjects in the high expectation/low performance condition rated the product higher than subjects in the low expectation/low performance condition, while subjects in the low expectation/high performance condition rated the product lower than subjects in the high

expectation/high performance condition. It would appear that the size of the discrepancy between expectations and perceived performance influences subsequent product ratings, and that performance evaluations tend to assimilate toward manipulated expectations whether positively or negatively disconfirmed (Olshavsky and Miller 1972). These results suggest that expectations exert a direct effect on perceived product performance. Since neither satisfaction nor expectancy disconfirmation were measured, the results of this study tells us nothing about the impact of expectations on disconfirmation and satisfaction.

Further empirical support for a positive relationship between expectations and perceived product performance is provided by two later studies. In a thorough investigation of the relationship between manipulated expectation levels and ratings for a ballpoint pen, Anderson (1973) found that with the exception of the high expectancy extreme, postexposure judgements did tend to assimilate toward prior expectations. Olson and Dover (1979) also manipulated subject's product expectations. Once again, compared to a control group (those receiving no prior information) product ratings for the experimental group (those receiving prior information) assimilated toward expectations.

After a thorough review of the satisfaction literature, LaTour and Peat (1979) concluded that the relationship between expectations and satisfaction is likely to be complex. One of the factors that contributes to this complexity is the existence of <u>different types</u> of expectations. The following section provides a brief review of the different types of expectations noted in the literature.

Types of Expectations

Miller (1977) describes four different types of expectations that can provide a subjective standard for judging a product or service: ideal, expected, minimum tolerable, and deserved. Ideal product performance represents the maximum or optimal level of product or service performance that a consumer ideally hopes for. It reflects what performance "can be" (Tse and Wilton 1988). "Ideal" expectations seem to be most relevant for high involvement products/services, since highly involved consumers tend to have "higher" expectations (Oliver 1980).

Minimum tolerable, on the other hand, represent the least acceptable level. Minimum expectations seem to be most relevant for low involvement purchase situations. The "minimum tolerable" standard implies a conjunctive decision making rule (Bettman 1979) that consumers are likely to use to reduce the cognitive and physical effort of searching and evaluating (Barber and Venkatraman 1986).

Expected product performance, deriving from expectancy theory (Tolman 1932), represents an anticipated level of performance. It represents what consumers believe to be the most likely performance. The construct reflects what performance "will (probably) be" (Miller 1977; Liechty and Churchill 1979; Tse and Wilton 1988). Expected product performance is influenced by the average product performance (Miller 1977) and by advertising effects (Olson and Dover 1979). Expected product performance is the most commonly used comparison standard in consumer satisfaction research.

Borrowing from equity theory (Adams 1963), equitable product performance

or deserved product performance represents the level of product performance a consumer ought to receive or deserves to receive, given the consumers' investments and costs in procuring the product or service (Miller 1977; Liechty and Churchill 1979; Woodruff, Cadotte, and Jenkins 1983). Equitable product performance is likely to be affected by the price paid and the effort invested (Jacoby 1976) and by previous product experience (Woodruff, Cadotte, and Jenkins 1983).

Recently, Tse and Wilton (1988) compared the effects of three comparison standards (ideal, equitable, and expected product performance) on three dependent variables (perceived performance, subjective disconfirmation, and satisfaction). In this study, equitable product performance did not appear to be related to any of the three dependent variables. Since this is inconsistent with previous findings, Tse and Wilton (1988) caution against eliminating the comparison standard altogether. They suggest a more reasonable inference is that the equity comparison standard was poorly operationalized. None of the comparison standards were significantly related to subjective disconfirmation. This is comparable to previous findings in the literature. The influence of ideal and expected comparison standards on perceived performance and satisfaction was quite dissimilar:

> For expectation, the effect on satisfaction is direct and positive; for ideal, it is indirect (through perceived performance) and negative. This result is intuitively appealing. If one is prepared to accept both assimilation/contrast explanations in CS/D formation, the results suggest that ideal as an anchor may tend to evoke a contrast effect on the evaluation of the experience, whereas expectation may evoke an assimilation effect (Tse and Wilton 1988, pp. 208-9).

Tse and Wilton's (1988) research supports LaTour and Peat's (1979) earlier

contention that the expectation-satisfaction relationship is likely to be complex. Apparently, some of this complexity arises from the existence of multiple comparison standards and their differential impact on perceived product performance and satisfaction.

Disconfirmation

In criticism of the earlier research on the disconfirmation of expectations, Weaver and Brickman (1974) "argued that a separate disconfirmation effect may exist independent of the outcome and expectation treatments and that studies manipulating only expectation and performance may have obscured this possibility" (Oliver 1977, p. 482). In response to this criticism, the disconfirmation effect was measured independently of expectations in a number of studies. The disconfirmation effect implicit in the expectation theories of consumer satisfaction was found to be a significant predictor of postexposure affect and intention to buy. Therefore, disconfirmation can be viewed independently of product performance expectations (Oliver 1980). Oliver (1980) proposed that satisfaction results from an additive combination of expectation level and subsequent disconfirmation. Empirical support for this proposition has been reported by Swan (1977), Oliver (1979), Gilly (1979), Linda and Oliver (1979).

Studies measuring disconfirmation independently have used one of several approaches to operationalize the construct. Some of the studies measured the objective discrepancy between expectations and performance ratings to arrive at a difference score (Trawick and Swan 1980). This type of disconfirmation has been

referred to as "inferred disconfirmation" (Swan and Trawick 1981) and "subtractive disconfirmation" (Tse and Wilton 1988). Other studies attempted to capture consumers' perception that performance was better or worse than expected (Oliver 1980). These studies used "better than expected-worse than expected" scales to measure disconfirmation. This type of disconfirmation has been referred to as "perceived disconfirmation" (Trawick and Swan 1980) and "subjective disconfirmation" (Tse and Wilton 1988).

In empirical comparisons of subtractive disconfirmation and subjective disconfirmation, results have been mixed. Swan and Trawick (1981) found subtractive disconfirmation to outperform subjective disconfirmation in predicting satisfaction. However, the authors speculate that this result may be due to an unreliable subjective disconfirmation measure. The subtractive disconfirmation measure in this study was based on the sum of five items whereas the subjective disconfirmation measure was based on a single indicator. Swan and Trawick (1981, p. 66) acknowledge that their finding "should be the subject of future research, since in theory, satisfaction should be more closely related to perceived than to inferred disconfirmation."

Other studies indicate that subjective disconfirmation measures display a more meaningful relationship to satisfaction (Oliver 1980). Tse and Wilton (1988, pp. 209) conclude that "in a comparison of the subjective and subtractive approaches to model disconfirmation, the former would be superior. The subtractive approach contains an inherent confound when predicting satisfaction and does not capture all

the determinants of CS/D formation." The subjective approach to modeling the disconfirmation construct will be used in this research.

Performance

Traditionally, the importance of performance in the satisfaction literature has been as a standard of comparison by which to assess disconfirmation. Olshavsky and Miller (1972) and Olson and Dover (1976) manipulated actual product performance. However, their focus was on the relationship between expectations and product performance ratings rather than between product performance (either perceived or actual) and satisfaction. It was not until recently that researchers began to investigate the independent effects of performance on satisfaction (Churchill and Surprenant 1982; Tse and Wilton 1988). Findings from these studies will be reviewed shortly.

Satisfaction

"The concept of satisfaction has defied exact specification even in those disciplines having a long-standing tradition of satisfaction" (Oliver 1981, p. 26). In marketing, there have been a number of different conceptualizations of satisfaction. For instance, Hunt (1977) summarized the ideas of a number of speakers at the first consumer satisfaction conference and concluded that satisfaction is an evaluation rendered that the (product ownership and usage) experience was at least as good as it was supposed to be. Similarly, Engel and Blackwell (1982) conceive satisfaction to be an evaluation that the chosen alternative is consistent with prior beliefs with respect to that alternative. Howard and Sheth (1969) define satisfaction as the

buyer's cognitive state of being adequately or inadequately rewarded for the sacrifices he has undergone.

LaTour and Peat (1979) assert that satisfaction is a general evaluative response to a product not unlike attitude. These authors argue that "the primary distinction between satisfaction and attitude derives from temporal positioning: attitude is positioned as a predecision construct and satisfaction is a postdecision construct". Oliver (1980, 1981) views attitude as the consumer's relatively enduring affective orientation for a product, store, or process (e.g. customer service), while satisfaction is the emotional reaction following a disconfirmation experience which acts on the base attitude level and is consumption-specific. According to Oliver then satisfaction arises from expectancy disconfirmation and decays over time into overall attitude toward a product.

As noted by Westbrook and Reilly (1983), a major shortcoming of these definitions of satisfaction is their dependence upon a particular theory of consumer satisfaction, notably the disconfirmation of expectations paradigm. Westbrook and Reilly (1983) advance an alternative conceptualization of consumer satisfaction based on Locke's (1969) seminal analysis of job satisfaction. Locke (1976) described job satisfaction as the pleasurable or positive emotional state resulting from the appraisal of one's job. Adapting this definition to consumer satisfaction, Westbrook and Reilly (1983, p. 256) define consumer satisfaction as

> an emotional response to the experiences provided by, or associated with, particular products or services purchased, retail outlets, or even molar patterns of behavior such as shopping and buyer behavior, as well as the overall marketplace.

Recently, the focus of product satisfaction research has shifted from the traditional disconfirmation paradigm to examining the structural relationships among expectations, disconfirmation, performance, and satisfaction. It may be that conceptualizations of satisfaction based on the traditional disconfirmation paradigm are not appropriate for structural models of satisfaction. Alternatives such as Westbrook and Reilly's (1983) may be more applicable for the current stream of satisfaction research. In this study, satisfaction is assessed on both an overall affective basis and an attribute-specific basis.

Extensions of the Disconfirmation Paradigm

Several studies provide an extension of the disconfirmation paradigm by examining the structural relationships among expectations, disconfirmation, performance, and satisfaction for products. In a two-stage field study, Oliver (1980) examined the relationships among expectations, disconfirmation, satisfaction and the traditional criteria of attitude and intention. Results from Oliver's (1980) study indicates that satisfaction is at least partially determined by a linear combination of an adaptation level component (expectations or prior attitude) and disconfirmation.

Churchill and Surprenant (1982, p. 493) noted that one of the crucial deficiencies in the consumer satisfaction literature is "that no study has investigated the full set of interrelationships among expectations, perceived performance, disconfirmation and satisfaction." In an attempt to fill this gap, Churchill and Surprenant (1982) conducted an experiment involving satisfaction formation for two products, a video disc player and a hybrid chrysanthemum. Unlike previous

research, both expectations and performance were manipulated independently for each product, and each subject's perceived expectations, perceived product performance, subjective disconfirmation, and satisfaction were subsequently measured.

The results suggest that the effects are different for the two products. For the plant, the traditional disconfirmation model performed reasonably well. Although expectations and perceived performance also directly affected satisfaction, subjective disconfirmation exerted the strongest influence on satisfaction. For the video disc player, the results were different in several important respects. Satisfaction with the video disc player was determined solely by perceived product performance. Neither initial expectations nor subjective disconfirmation had any direct influence on satisfaction.

In terms of other linkages, initial expectations had a positive influence on perceived product performance for both products. The relationship between expectations and disconfirmation was negative for the plant and positive for the video disc player. In both cases, the relationship was significant but small. Perceived product performance exerted a positive influence on disconfirmation for both products.

Churchill and Surprenant (1982) offer a number of alternative explanations for their findings. One obvious explanation is that the effects of expectations, disconfirmation and performance on satisfaction differ for durable and nondurable goods. A second explanation is that the artificial setting of the experiment did not

allow satisfaction as it is typically conceived to operate. The validity of the findings depends largely on how well the imagined role-playing situations actually produced the vicarious experience necessary for satisfaction formation to occur. A third explanation involves measures. For the video disc player, the performance and satisfaction measures were highly correlated with some between-construct correlations slightly higher than the within-construct correlations. Perhaps the performance and satisfaction measures were actually capturing the same construct.

More recently, Tse and Wilton (1988) empirically examined the role of perceived product performance using Churchill and Surprenant's model (1982). These researchers compared Churchill and Surprenant's model with alternative satisfaction/dissatisfaction models including the traditional disconfirmation model and Oliver's (1980) two variable model (expectation and disconfirmation). Their findings indicate that the model of consumer satisfaction formation which treats perceived performance, expectations, and disconfirmation independently outperformed other models. Replicating findings for the video disc player in Churchill and Surprenant's (1982) study, perceived product performance (for a new electronic, hand-held, miniature record player) outperformed any other satisfaction model. Based on these findings, Tse and Wilton (1988) conclude that expectations, disconfirmation, and perceived performance exert independent effects on satisfaction and should therefore be modeled separately.

Oliver and Bearden (1983) extend the literature by investigating satisfaction processes across involvement levels. These authors examined satisfaction processes

for high and low involvement users of an appetite suppressant. In a three wave field study, relationships among expectation, pre-attitude, pre-intention, disconfirmation, satisfaction, post-attitude, and post-intention for different involvement levels were examined. Unfortunately, these authors did not examine the independent effects of perceived product performance. Oliver and Bearden (1983) suggest that under conditions of high involvement, purchase outcomes such as performance will have the dominating influence on satisfaction formation. In contrast, under conditions of low involvement, consumers will be less inclined to process performance distinct from prior expectations so disconfirmation will have the dominating influence on satisfaction formation.

Summary

Recently, the emphasis in product satisfaction research has shifted from validation of the traditional disconfirmation paradigm to an examination of the structural relationships among expectations, perceived performance, disconfirmation, and satisfaction. Empirical evidence supports the independent effects of expectations, perceived performance, and disconfirmation on satisfaction. The relative impact of each may depend on such mediating factors as product type (Churchill and Surprenant 1982) and consumer involvement (Oliver and Bearden 1983). Support is also found for a positive relationship between expectations and perceived performance, and between perceived performance and disconfirmation.

Satisfaction and Consumer Services

While the consumer satisfaction/dissatisfaction literature continues to grow at

a substantial rate, comparatively little attention has been paid to consumer satisfaction for services (Liechty and Churchill 1979; Zeithaml 1981; Hill 1986). Yet, Liechty and Churchill (1979) suggest that consumer dissatisfaction may be higher for services than for products due to the inherent characteristics of services. For instance, the human element involved in the delivery of many services decreases the service firm's ability to control the quality of service delivered. Consequently, chances of consumer dissatisfaction are increased. In fact, several empirical studies indicate that the vast majority of reasons given for dissatisfaction were directly related to the quality of the supplier performance (Day and Bodur 1977; Quelch and Ash 1981; Bitner, Booms and Tetreault 1988).

In a study of satisfaction with 73 categories of services and intangible products, the most frequently cited source of dissatisfaction was provider performance: "the service was provided in a careless, impersonal manner" (Day and Bodur 1977, p. 264). In a later study, this was found to be true for professional services as well (Quelch and Ash 1981). Of relevance to this study, the professional services cited as most dissatisfying were medical services. In another study, the three major sources of satisfaction/dissatisfaction for hotel, restaurant, and airline services were also related to provider performance: 1) employee response to service delivery system failures; 2) employee response to customer needs and requests; and 3) unprompted and unsolicited employee actions that exhibit extraordinary behavior (Bitner, Booms, and Tetreault 1988).

All these studies indicate that provider performance is a dominant source of

consumer satisfaction/dissatisfaction for many services. Further support for the importance of provider performance is found in the patient satisfaction literature. As the context of this study is medical services, a review of the patient satisfaction literature is warranted.

Determinants of Patient Satisfaction

Understanding the determinants of patient satisfaction has been a major thrust of research in both the health care marketing literature and the medical sociology literature. Although patient satisfaction studies have dealt with numerous aspects of medical services, basically the determinants of patient satisfaction can be classified in one of two broad categories: physician behaviors and access mechanisms (Pascoe 1983; Smith, Bloom and Davis 1986). Access mechanisms represent nonbehavioral aspects of the medical encounter such as convenience factors. To gain a better understanding of physician behaviors and access mechanisms, studies of patient satisfaction from both the marketing and medical sociology literature are reviewed.

Marketing Studies of Patient Satisfaction

Smith, Bloom, and Davis (1986) propose a conceptual model of patient satisfaction consisting of three domains: (1) an instrumental domain which corresponds to professional qualities of the physician, (2) an expressive domain which corresponds to personal qualities of the physician, and (3) access mechanisms, which correspond to cost/convenience factors. These authors found that physicians and patients are generally in agreement with respect to the importance of physicians' professional qualities and access mechanisms. There did

however, appear to be a lack of agreement concerning the importance of physicians' personal qualities. "The personal qualities deemed less important by the physicians themselves, appeared to be more important to patients and the area of least satisfaction" (Smith, Bloom, and Davis 1986, p. 323).

In several other marketing studies, empirical support is found for medical service dimensions similar to those proposed by Smith, Bloom, and Davis (1986). Adapting the service quality model proposed by Parasuraman, Zeithaml, and Berry (1985, 1986), Baumgarten and Hensel (in prep.) found that patients evaluated medical practitioners on three key dimensions: 1) technical skills of the physician and staff, 2) interpersonal skills of the physician and staff, and 3) tangibles of medical setting. These dimensions closely parallel those proposed by Smith, Bloom, and Davis (1986). The first dimension is concerned with the doctor's technical ability to solve medical problems. The second dimension is concerned with the doctor's ability to provide friendly, courteous, informative, and personalized service. The third dimension is concerned with tangibles such as physical facilities, equipment, and decor.

Virtually every patient in this study indicated that they felt incapable of objectively evaluating the technical performance of the medical provider. To compensate for this inability, patients with prior knowledge of the physician's reputation (via referrals and personal recommendations) relied more heavily on this information to evaluate the service. In contrast, patients with no prior knowledge relied more heavily on their observations of interpersonal relations and tangibles to

evaluate the service.

Brown and Swartz (1987) also applied the Gaps model of service quality (Parasuraman, Zeithaml, and Berry 1985) to explore the concept of satisfaction with professional services. Service quality perceptions were collected from both physicians and their respective patients. A stepwise regression analysis resulted in ten service dimensions which contribute to overall patient satisfaction with medical practices. Once again, these ten determinants could be further classified into physician behaviors and access mechanisms. Consistent with previous findings, the most significant predictors of overall satisfaction were related to physician behaviors:

*listening to the patient
*giving information and explanations
*being cautious and thorough
*being sincerely interested in patient
*giving the patient attention and time.
*showing professionalism
*being competent

Other significant predictors of overall satisfaction include:

*availability
*reasonable fees
*use of latest technologies
*diagnostic skills
*availability of brochures.

In another marketing study, 148 out of 161 reasons given for dissatisfaction with pediatricians and general practitioners had to do with physician performance (Stewart, Hickson, Ratheshwar, Pechmann, and Altemeier 1985). Specific physician behaviors reported as sources of dissatisfaction included: doctor was not interested

in child's behavior; doctor had no concern for child; physician showed no concern for the patient; the child was not getting better; and doctor appeared incompetent that is he/she did not appear to know what he/she was doing. Other sources of dissatisfaction included: office too far away; found another MD more convenient; and staff was rude.

From these marketing studies, there appear to be two primary sources of patient satisfaction/ dissatisfaction: 1) physician behaviors and 2) access mechanisms. These categories are repeatedly found in the medical sociology literature as well. Within these two broad categories, there are a number of specific dimensions which have been shown to affect patient satisfaction. A review of the medical sociology literature reveals three physician conduct dimensions: expressive behaviors, communicative behaviors, and instrumental behaviors. The literature also shows five access mechanisms: access, availability, convenience, finances, and physical environment. We will now turn to a review of these specific dimensions.

Physician Behaviors

Studies of patient satisfaction have shown that patients expect to have a comfortable and warm interaction with a physician who appears technically competent and gives adequate information about one's illness (Wolf, Putnam, James, and Stiles 1978). Findings consistently indicate that patient satisfaction is significantly influenced by these three dimensions of the physician's performance: expressive, communicative, and instrumental dimensions (Vuori, Aaaku, Aine, Erkko, and Johansson 1972; Needle and Murray's 1977).

Expressive Behaviors

Behaviors representative of the physician's expressive role include showing warmth and concern, being friendly, showing a personal interest in the patient, accepting the patient, treating the patient as an individual, discussing the patient's concerns, reassuring the patient, putting the patient at ease, and taking sufficient time with the patient. There is abundant research supporting the positive relationship between the physician's expressive role performance and patient satisfaction (Korsch, Gozzi, Francis 1968; Freemon, Negrete, Davis and Korsch 1971; Korsch and Negrete 1972; Vuori, Aaku, Aine, Erkko, and Johansson 1972; Wriglesworth and Williams 1975; Ben-Sira 1976; Berkanovic and Marcus 1976; Needle and Murray 1977; DiMatteo, Prince, and Taranta 1979; Wolf, Putnam, James and Stiles 1978; Stiles, Putnam, Wolf and James 1979; Friedman, DiMatteo, Taranta 1980; Segall and Burnett 1980; and Wilson and McNamara 1982).

Communicative Behaviors

Behaviors representative of the physician's communicative role include giving explanations in a language that can be understood by the patient, giving clear explanations and instructions, asking questions, clarifying questions, and listening to the patient. Once again, empirical support for a positive relationship between physician communicative performance and patient satisfaction is plentiful (Francis, Korsch, and Morris 1969; Freemon, Negrete, Davis and Korsch 1971; Housten and Pasanen 1972; Korsch and Negrete 1972; Comstock and Slome 1973; King and Goldman 1975; Kincey, Bradshaw and Ley 1975; Ware and Snyder 1975;

Wriglesworth and Williams 1975; Berkanovic and Marcus 1976; Jenry 1976; Blanchard, Treadwell, and Blanchard 1977; Doyle and Ware 1977; Wooley, Kane, Hughes, and Wright 1978; Stiles, Putnam, Wolf and James 1979; Aday, Andersen and Fleming 1980; Eisenthal, Koopman, and Lazare 1983; and Strull, Lo, and Charles 1984).

Instrumental Behaviors

Behaviors representative of the physician's instrumental role include thoroughness in examining the patient, establishing a diagnosis, and care in examining the patient before arriving at a diagnosis. A direct relationship between patient's perception of the physician's competence and subsequent satisfaction has been established in a number of studies (Vuori, Aaku, Aine, Erkko, and Johansson 1972; Ben-Sira 1976, 1982; Needle and Murray 1977; Greene, Weinberger, and Mamlin 1980; Gillette, Byrne and Cranston 1982; and Wilson and McNamara 1982).

Access Mechanisms

Access mechanisms (so called by Ware and Snyder 1975; Doyle and Ware 1977; Manglesdorf 1979; Smith, Bloom, and Davis 1986) represent the nonbehavioral aspects of the medical encounter: access, availability, convenience, finances, and the physical environment.

Access, Availability, and Convenience

With one noted exception (Wolinsky 1976), research results provide overwhelming evidence that the dimensions of accessibility, availability and

convenience are positively correlated with patient satisfaction. Satisfaction has been shown to increase with lessened appointment difficulty, availability of more appointment hours, decreased travel demands to obtain care, and less waiting time (Diesher, Engel, Spielholz, and Standfact 1965; Caplan and Sussman 1966; Aday and Andersen 1975; Berkanovic and Marcus 1976; Ludy, Gagnon, and Caiola 1977; Shortell, Richardson, LoGerfo, Diehr, Weaver, and Green 1977; Aday, Andersen and Fleming 1980; Gray 1980; Greene, Weinberger, and Mamlin 1980; Mechanic, Greenley, Clearly, Hoeper and Wenzel 1980; Fox and Storms 1981; Greenly and Schoenherr 1981; Penchansky and Thomas 1981; Weinberger, Greene, and Mamlin 1981; Linn, Linn, and Stein 1982).

Finances

Cost of medical care appears to be inversely related to patient satisfaction. In one national study, cost of care was the most criticized aspect of medical care (Aday, Andersen and Fleming 1980). Caplan and Sussman (1966) found a positive association between satisfaction with medical charges and overall satisfaction with the health care organization. In another study, a reduction in health care costs as a result of switching health plans was associated with increased satisfaction (Ashcraft, Penchansky, Berki, Fortus, and Gray 1978). Hulka and his associates (1971) found patients with medical insurance were more satisfied with their health care. However, in a later study, Wolinsky (1976) failed to find an association between medical insurance coverage and satisfaction.

Physical Environment

Satisfaction has also been associated with the pleasantness of the patient's surroundings (Housten and Pasanen 1972) and negatively associated with hospital size (Brooks 1973; Aday, Andersen, and Fleming 1980).

In summary, there is strong empirical evidence in the health care literature for the relationship between physician behaviors (expressive, communicative, and instrumental) and patient satisfaction and between access mechanisms (such as availability, accessibility, convenience, cost, and physical environment) and patient satisfaction.

Models of Patient Satisfaction

Most of the research previously reviewed has focused on determining the medical service dimensions critical to patient evaluation processes. Little of this research has been based on solid sociopsychological theories of patient satisfaction (Locker and Dunt 1978). For this reason, the patient satisfaction literature has been criticized:

> Very little of the satisfaction research has been theory-testing or theory-building: that is, research designed to provide data that would explain the associations between satisfaction and patient and service characteristics or between satisfaction and subsequent patient behaviors" (Linder-Pelz 1982, 577).

The implicit theory underlying much of the patient satisfaction research is discrepancy theory. Similar to definitions of product satisfaction in the traditional disconfirmation paradigm, patient satisfaction is defined as the difference between actual outcome and some comparison standard such as expectations or ideal

performance. Previous attempts to model patient satisfaction in the marketing literature (Baumgarten and Hensel in prep.; Brown and Swartz 1987) have followed a discrepancy model proposed by Parasuraman, Zeithaml, and Berry (PZB) (1985). The PZB model of service quality specifies a set of key discrepancies or gaps between management perceptions of service quality, management specifications of service components, and actual service delivery, on the one hand, and consumer perceptions and expectations of service quality, on the other hand. Although, this model was originally developed as a conceptualization of service quality, it has also been utilized to model service satisfaction. The argument is made that service quality is a global judgement or attitude whereas satisfaction is transaction specific (Parasuraman, Zeithaml, and Berry 1986). Since the primary distinction between the two constructs is temporal, the PZB model (1986) has been applied to study both service quality and service satisfaction.

Most studies in the medical sociology literature have also implicitly used discrepancy theory to model patient satisfaction. Patient satisfaction researchers generally refer to satisfaction as a matching of expected care with the perception of the care actually received (e.g. Korsch, Gozzi, and Francis 1968; Risser 1975; Larsen and Rootman 1976; Ashcraft, Penchansky, Berki, Fortus, and Gray 1978; Pope 1978; Greene, Weinberger, and Mamlin 1980; Fox and Storms 1981; Weinberger, Greene and Mamlin 1981; Zastowny, Roghmann, and Hengst 1983).

In contrast to discrepancy-based studies, studies based on fulfillment theory suggest that satisfaction results from the service received regardless of how much

one feels they should and/or want to receive (Pascoe 1983). Several health care studies have implicitly used fulfillment theory (Korsch, Gozzi, Francis 1968; Noyes, Levy, Chase, and Udry 1974; Vertinsky, Thompson, and Uyeno 1974; Larsen and Rootman 1976; Ashcraft, Penchansky, Berki, Fortus, and Gray 1978). Studies based on fulfillment theory emphasize the independent effects of performance on satisfaction whereas, studies based on discrepancy theory emphasis the effect of performance in relation to expectations.

Summary

Previous attempts to model patient satisfaction using discrepancy and fulfillment approaches can be faulted as suffering from both conceptual and empirical weaknesses (Lawler 1973; Pascoe 1983). The assumption of fulfillment theories is that objective service outcomes determine satisfaction. This approach ignores the evaluative process of comparing service outcomes with psychological standards. Discrepancy approaches, on the other hand, acknowledge this comparative process but they neglect the possibility that service performance will have an independent impact on satisfaction. Years ago, Churchill and Surprenant (1982) criticized product satisfaction researchers for neglecting to investigate the interrelationships among expectations, perceived performance, disconfirmation, and satisfaction. This criticism may be echoed today for the patient satisfaction literature. To date, the interrelationships among patient expectations, patient's perceptions of medical services rendered, disconfirmation and patient satisfaction have not been adequately considered in the health care literature.

Previous attempts to model patient satisfaction may also be faulted for ignoring the interactive nature of medical services. As this review indicates, the role of the service provider has been well documented. However, the recipient of the service also has a role to play (Solomon, Surprenant, Czepiel, and Gutman 1985). For the most part, this role has been largely ignored in the patient satisfaction research. "Since services are interactive, the customer's own performance is a causal variable affecting outcomes that needs to be measured and controlled for in satisfaction monitoring" (Czepiel and Sabalava 1988, p. 12). In the marketing literature, research concerning the patient's role is virtually nonexistent. While research is scant in the medical sociology literature, there are several theoretical and empirical pieces which may provide some insights into patient roles and their influence on satisfaction.

Prescriptive Models of Patient Roles

Based on the concept of the sick role, Parsons (1951) introduced one of the earliest models of patient behavior. Parsons believed that sick people are granted certain privileges on the basis of their illness. Such privileges include exemptions from responsibilities for one's own health and exemptions from the performance of normal social responsibilities. According to Parsons, the sick person also has certain obligations including the motivation to get well, seek technically competent help, trust the doctor, and comply with the medical regimen. This conceptualization sees the patient as having a relatively passive role in his/her medical care.

Later, Szasz and Hollender (1956) present an alternative to Parsons'

formulation of the patient role. They present three models of doctor-patient relationships: activity-passivity, guidance-cooperation, and mutual participation. The appropriateness of each model is determined by the degree of patient control which in turn is determined by the nature of the illness. In an activity-passivity relationship, the patient is completely helpless and passive and the physician assumes an authoritative role. This model is appropriate for emergency care. In a guidance-cooperative relationship, the patient participates by cooperating with the medical regimen. This model is appropriate for the care of acute disorders, especially infectious disorders. In a mutual participation relationship, the patient is regarded as an equal participant in the delivery of health care. The physician's role in this type of relationship is to help the patient to help him/herself. This last model is appropriate for the care of chronic disorders.

Similar to the mutual participation model proposed by Szasz and Hollender (1956), today's conceptualization of the patient role is characterized by an active patient concept. According to this view, the 'activated' patient rejects the passivity of sick role behavior and assumes some responsibility for his/her own care. The patient's responsibilities include defining as clearly and honestly as possible the nature of the problem, asking questions, stating preferences, offering opinions, proposing alternatives, expecting to be heard, seeking second opinions, and stating the type of intervention being sought from the physician (Quill 1983; Steele, Blackwell, Gutmann, and Jackson 1987).

Empirical Investigations of Patient Role

To date, most of the work on patient behavior has prescribed how patients ought to behave (according to the various authors), rather than describing how patients expect, desire or actually behave. In one of the few noted exceptions, Vertinsky, Thompson, and Uyeno (1974) surveyed subjects to determine the role orientations preferred by patients in clinical decision making. Eight activity dimensions were identified. The activity dimensions were related to the patient's propensity to seek information and second opinions, the patient's participation in decision making, the patient's tendency to supplement physician orders with additional drugs or treatment.

In several other studies (Lorber 1975; Tagliacozzo and Mauksch 1979), hospital patients were asked what they believe their physicians and nurses expected of them. They were also asked about their own role preferences. Findings from these studies indicate that patients do differentiate between role expectations and role preferences. When asked what was expected of them by their physicians and nurses, "they responded with considerable consistency, indicating that several rules for 'proper' conduct of patients are well defined and widely shared" (Tagliacozzo and Mauksch 1979, p. 188). Respondents thought they were expected to be co-operative, trusting, confident, undemanding, respectful and considerate. Findings also indicate that hospitalized patients frequently resent the passivity and submission expected by doctors and nurses (Lorber 1975). There is also evidence that some patients fear they will be deprived of adequate care if they do not conform to physician and nurse expectations (Tagliacozzo and Mauskch 1979).

Summary

To date much of the research on patient role has been prescriptive rather than descriptive. There is limited evidence that patients do distinguish between role expectations and role preferences. It would appear from this scant review that patients desire greater participation in medical encounters than they believe is expected of them. Further research is needed: 1) to conceptualize the patient role in the service encounter, and 2) to examine the associations among patient role expectations, performance, disconfirmation, and satisfaction.

Review of the Literature

From the literature review we can note a number of major deficiencies in the services satisfaction literature in general and the patient satisfaction literature in particular.

1. Unlike the product satisfaction literature, there has yet to be a systematic investigation of the full set of interrelationships among expectations, performance, disconfirmation, and satisfaction in the services marketing literature. This finding holds for the health care literature as well. For the most part, researchers have adopted the disconfirmation paradigm to study service satisfaction. Yet product satisfaction research has moved beyond this traditional paradigm to study the structural relationships among expectations, performance, disconfirmation, and satisfaction. It can be argued that service satisfaction research should do likewise.

2. Thus far, the application of role theory to the study of service satisfaction has been rather limited. The criticism previously voiced may be repeated: researchers have failed to investigate the associations among role expectations, performance, disconfirmation and satisfaction. In general, researchers have either adopted the disconfirmation paradigm to study satisfaction or they have studied the isolated influence of role performance on satisfaction. A natural extension would be to study the full set of interrelationships among the different role constructs.

3. While most researchers would agree that consumers often have a participatory role in the service encounter, research in the services marketing literature has virtually ignored the customer/client role and its influence on constructs such as satisfaction. Given the interactional emphasis of role theory, it is surprising that studies based on this theoretical framework have neglected to examine the consumer's role in the service encounter. In the words of Solomon, Surprenant, Czepiel, and Gutman (1985, p. 101), "the quality of the subjective product-the service experience-is the true outcome of a service interaction. This is manufactured by both parties and must be approached as such."

Model Presentation

This research attempts to address the issues presented in the previous section.

The proposed model specifies interrelationships among expectations, performance, disconfirmation, and satisfaction for health care services. The hypothesized relationships are summarized in Table 2.1. Also included in Table 2.1 are previous studies which have found support for the proposed hypotheses.

Table 2.1

Hypotheses and Supporting Research Findings

H1:	Perceived performance is negatively influenced by ideal expectations.	Lorber (1975) Miller (1977) Locker and Dunt (1978) Tagliacozo and Mauksch (1979) Oliver (1980) Gardner (1987) Tse and Wilton (1988)
H2:	Perceived performance is positively influenced by expectations.	Cardozo (1964) Olshavsky and Miller (1972) Anderson (1973) La Tour and Peat (1980) Churchill and Surprenant (1982) Tse and Wilton (1988)
H3:	Disconfirmation is positively influenced by perceived performance.	Swan and Trawick (1980) Churchill and Surprenant (1982) Tse and Wilton (1988)
H4:	Satisfaction is positively influenced by expectations.	Swan (1977) Oliver (1977, 1979, 1980) Churchill and Surprenant (1982) Tse and Wilton (1988)

Table 2.1 continued

Hypotheses and Supporting Research Findings

H5:	Satisfaction is positively influenced by perceived performance. Swan and Trawick (1980) Churchill and Surprenant (1982) Oliver and Bearden (1983) Crosby and Cowles (1986) Tse and Wilton (1988)
H6:	Satisfaction is positively influenced by disconfirmation. Cardozo (1968) Francis, Korsch, and Morris (1969) Needle and Murray (1977) Oliver (1977) Swan (1977) Gilly (1979) Linda and Oliver (1979) Swan and Trawick (1980) Oliver and Bearden (1983) Churchill and Surprenant (1982) Tse and Wilton (1988)

These hypotheses are first tested separately for each of the four submodels: the patient's own role, the doctor's role, the staff's role and access mechanisms (see Figures 2.2 to 2.5). As the reader may recall, all of the submodels are based on the consumer's perspective.

Three of the submodels (doctor, patient, and access mechanisms) have been previously discussed. The fourth submodel, the staff's role, is included as an additional behavioral dimension of the service encounter. Although the primary focus of the dissertation is on the doctor's and the patient's roles, in a clinic setting

the patient interacts with other role players including nurses, technicians, and receptionists. It is felt that patients' evaluation of the staff's role may also impact their overall evaluation of the service. For this reason, the staff's role is included as a submodel.

After the interrelationships are examined for each of the four submodels, the submodels are then integrated into an overall model of patient satisfaction (see Figure 2.6). The purpose of the overall model of satisfaction is to determine the relative impact of patient satisfaction with their own role, the doctor's role, the staff's role, and the access mechanisms on overall satisfaction with the clinic.

FIGURE 2.2
Patient Submodel:
Hypothesized Relationships

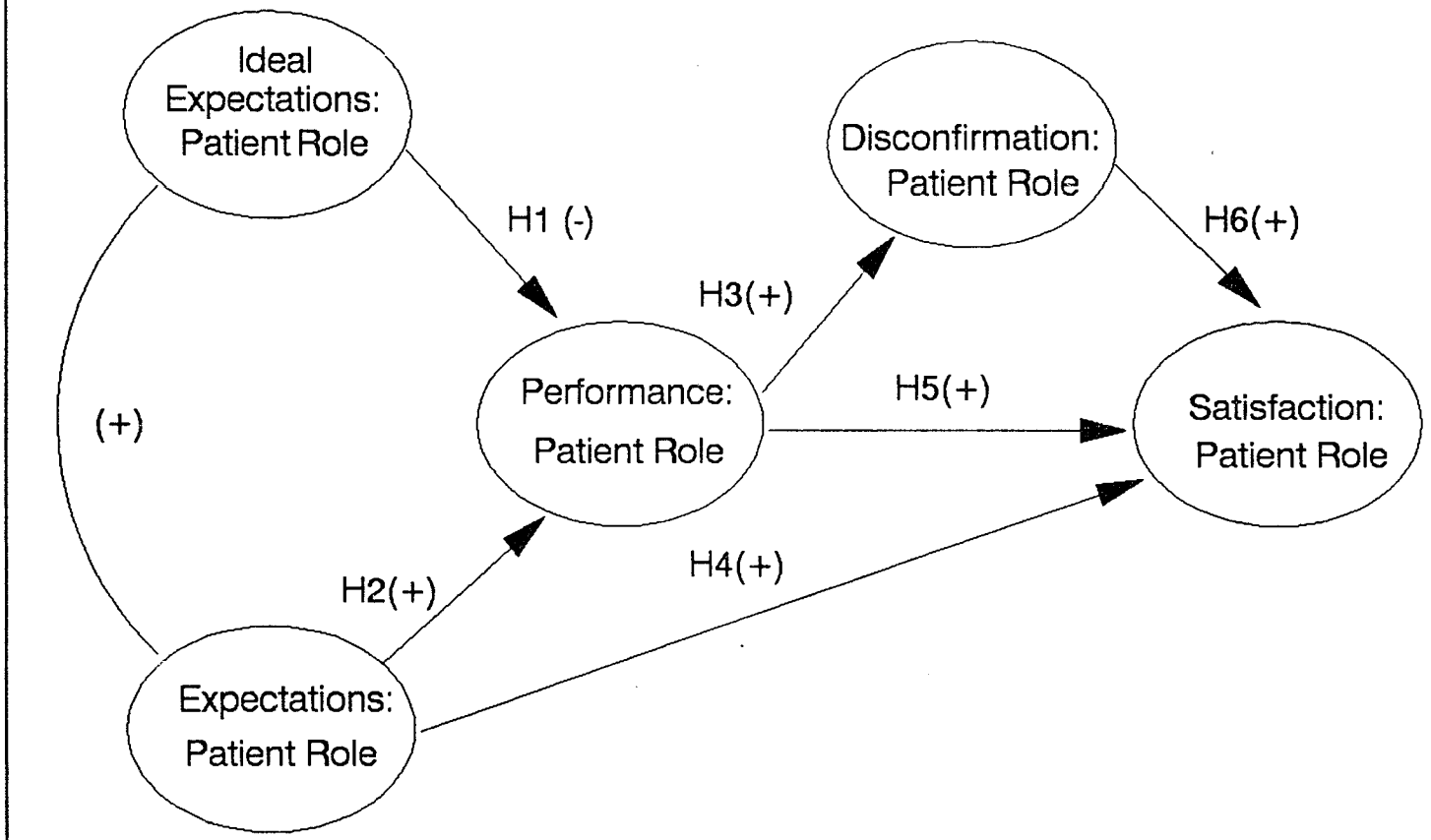


FIGURE 2.3
Doctor Submodel:
Hypothesized Relationships

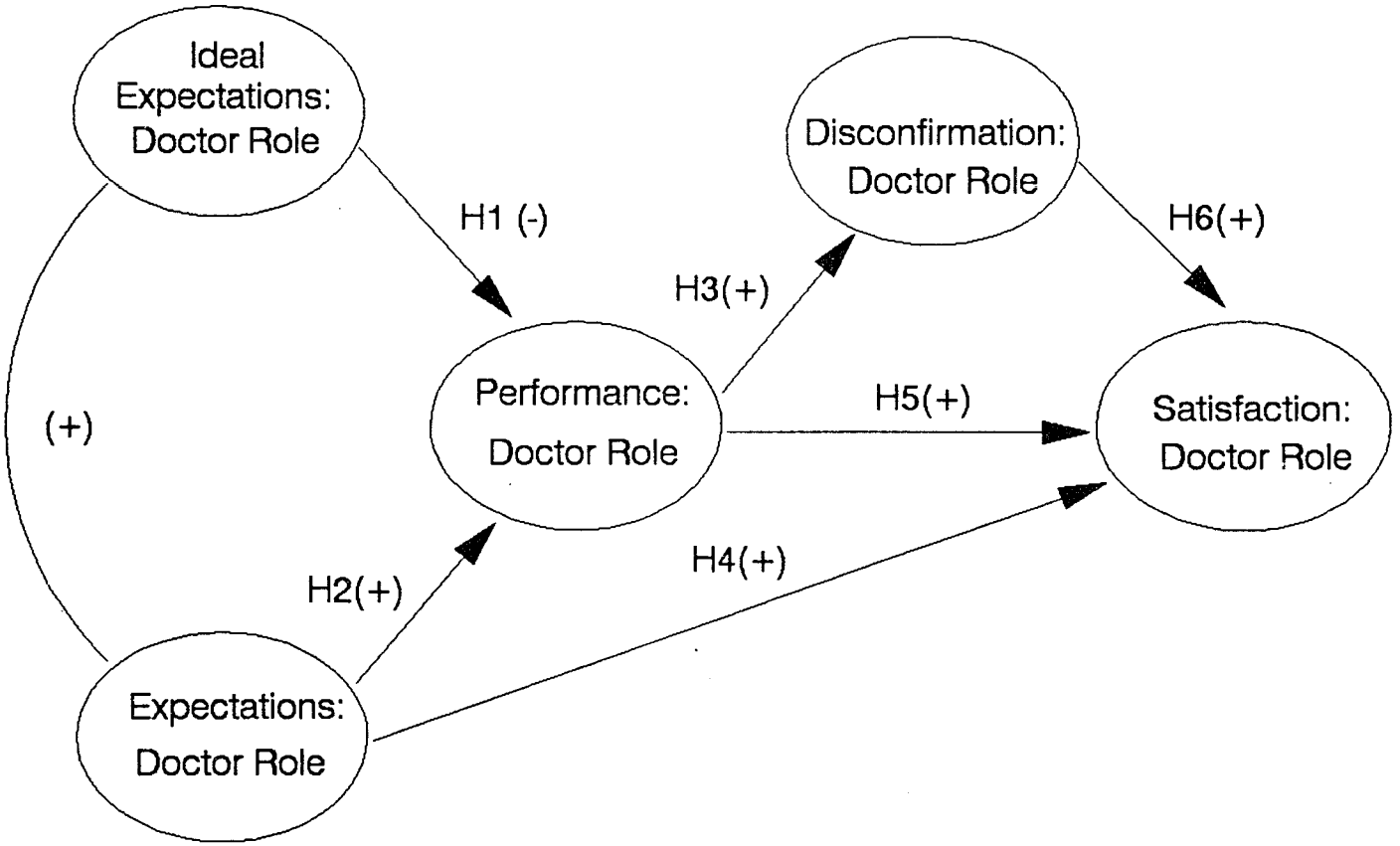


FIGURE 2.4
Staff Submodel:
Hypothesized Relationships

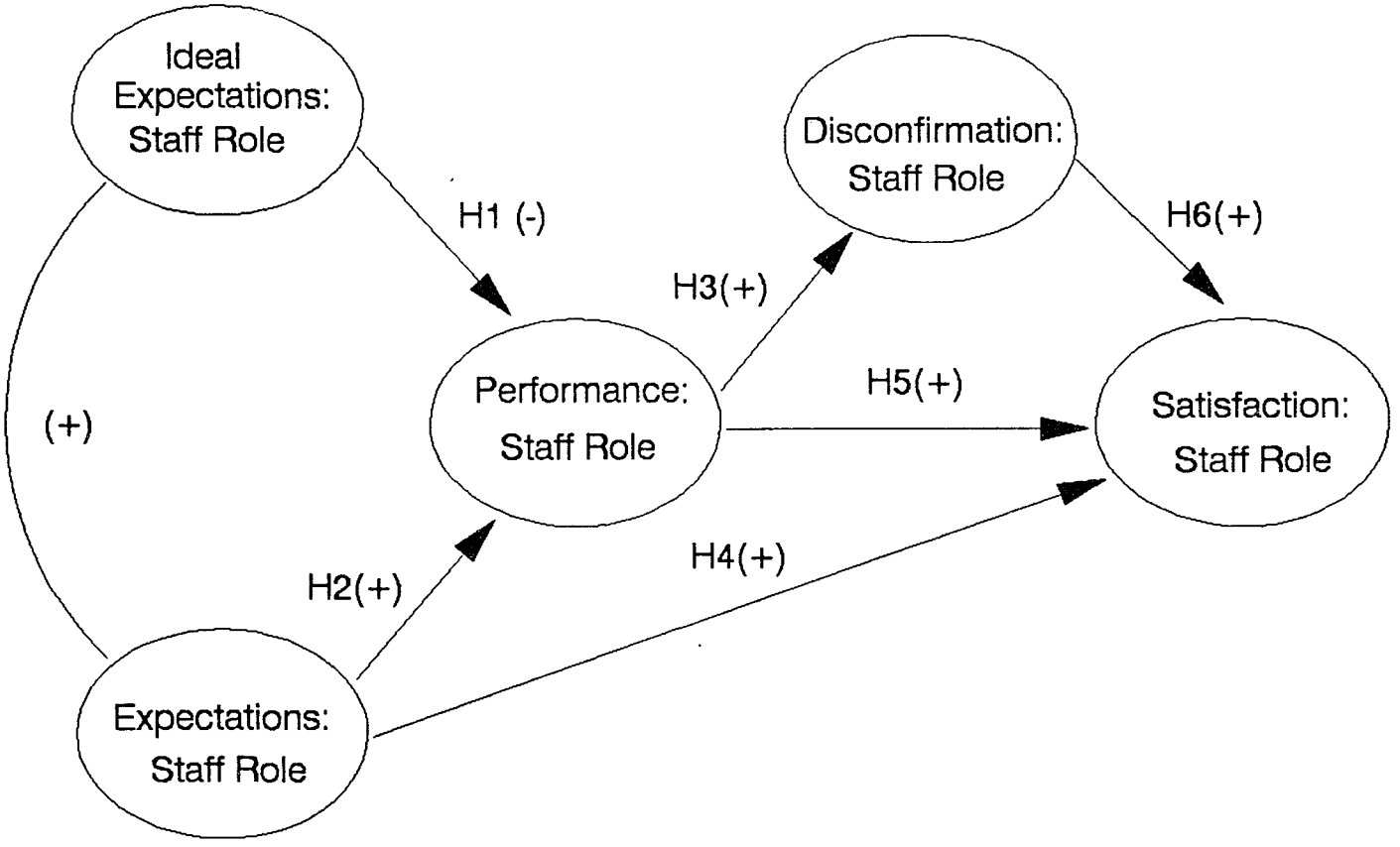


FIGURE 2.5
Access Mechanisms Submodel
Hypothesized Relationships

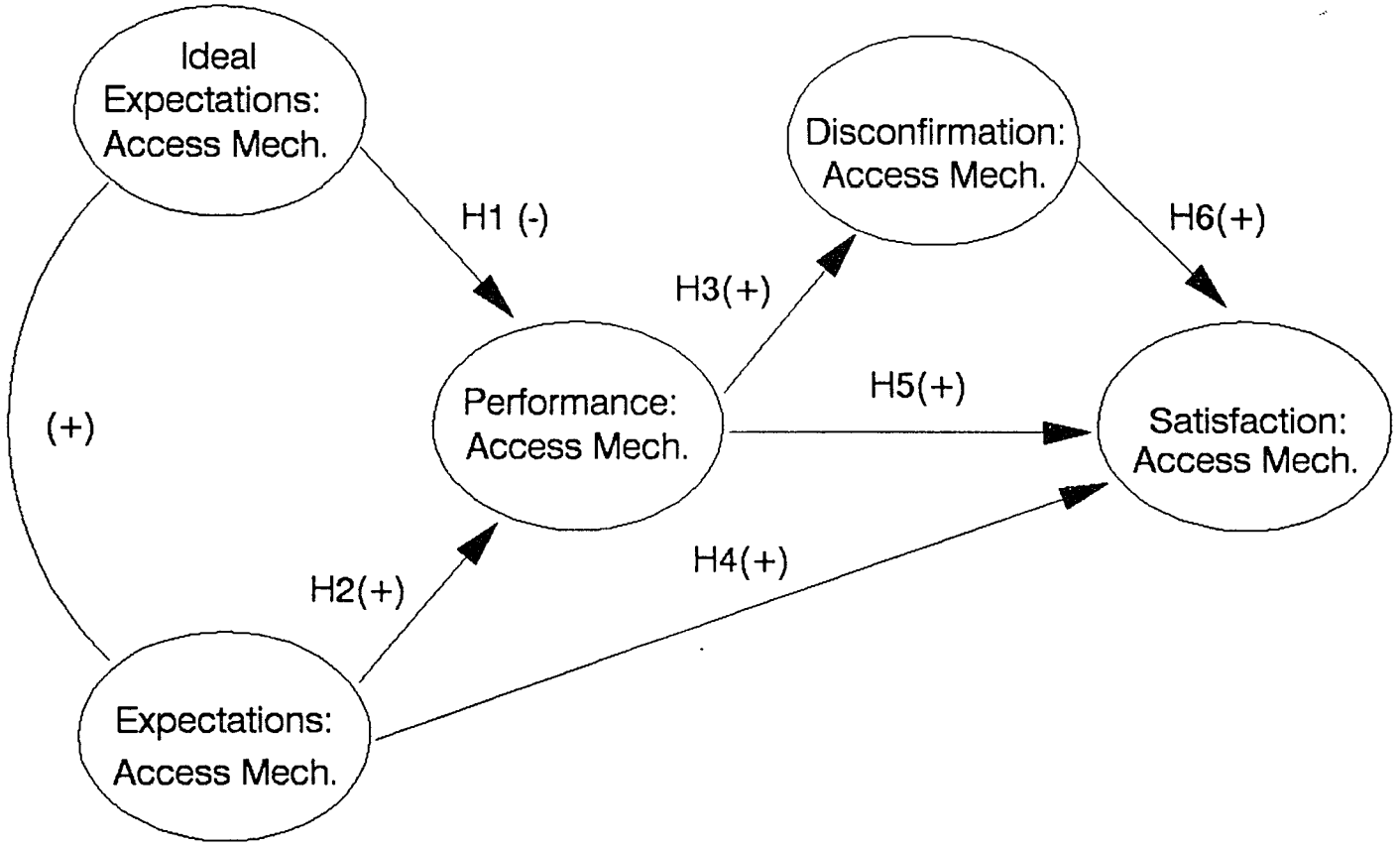
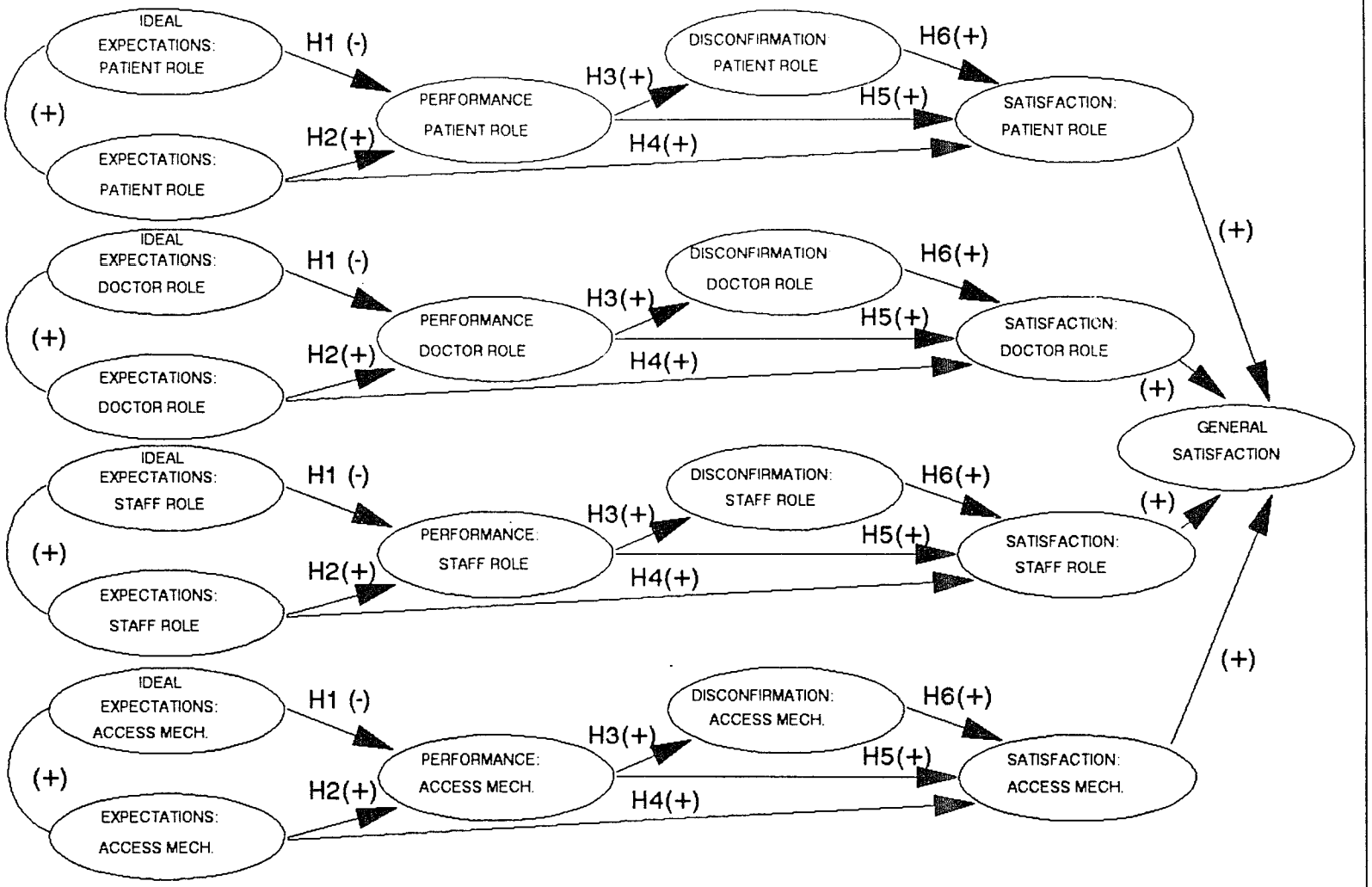


FIGURE 2.6- HYPOTHESIZED RELATIONSHIPS: TOTAL MODEL



Constructs of the provider role submodel include ideal provider role, provider role expectations, provider role performance, and provider role disconfirmation. Ideal provider role represents the types of behavior that a consumer ideally hopes the provider will perform during the service encounter. It represents desirable role behavior. Provider role expectations represent the types of behavior that a consumer believes the provider is most likely to perform. Provider role performance represents a consumer's perceptions of the provider's actual behavior. Provider role disconfirmation represents a consumer's subjective assessment of the discrepancy between prior expectations and actual performance with respect to the provider's behavior.

Constructs of the consumer role submodel include ideal own role, own role expectations, own role performance, and own role disconfirmation. Consumer role constructs are defined similarly to the provider role constructs. Ideal own role represents the types of behavior that a consumer ideally hopes to perform during the service encounter. This construct represents desirable patient behavior. Own role expectations represent the types of behavior that a consumer believes he/she is most likely to perform. Own role performance represents a consumer's perceptions of his/her actual behavior during the service encounter. Own role disconfirmation represents a consumer's subjective assessment of the discrepancy between prior expectations and actual performance with respect to his/her own role.

Constructs of the staff role submodel include ideal staff role, staff role expectations, staff role performance, and staff role disconfirmation. Ideal staff role

represents the types of behavior that a consumer ideally hopes cashiers and receptionists, nurses, and xray and cast technicians will perform during the service encounter. Staff role expectations represent the types of behavior that a consumer believes the staff is most likely to perform. Staff role performance represents a consumer's perceptions of the staff's actual behavior during the service encounter. Staff role disconfirmation represents a consumer's subjective assessment of the discrepancy between prior expectations and actual performance with respect to the staff's role.

Constructs of the access mechanisms submodel include ideal access mechanisms, access mechanisms expectations, access mechanisms performance, and access mechanisms disconfirmation. Ideal access mechanisms represent what a consumer ideally hopes for in terms of access, availability, convenience, finances, and physical environment of the service. Expected access mechanisms represents what a consumer considers most likely to occur in terms of access mechanisms. Access mechanisms performance represents a consumer's perceptions of the accessibility, availability, convenience, cost and physical environment of the service. Access mechanisms disconfirmation represents a consumer's subjective assessment of the discrepancy between prior expectations and actual performance with respect to access mechanisms.

Mediating Influence of Involvement

Adding to the deficiencies noted earlier, the satisfaction research in the services marketing literature and the health care literature can be faulted for

neglecting to investigate the possibility of mediating effects such as involvement on satisfaction formation. In the context of product satisfaction, Oliver and Bearden (1983) found that high involvement decreases one's sensitivity to expectations while low involvement causes the general tone of expectations to influence post-usage evaluations. In other words, under conditions of low involvement the traditional disconfirmation paradigms performs reasonably well but under conditions of high involvement perceived performance dominants the satisfaction process. This type of research has yet to be conducted for services. This research examines the role of involvement on consumer satisfaction formation for health care services. A brief review of the involvement research pertinent to this study is now provided.

Involvement

Although research on involvement goes back to Sherif and Cantril's work in 1947, the term involvement was first popularized by Krugman (1965, 1966). Krugman (1966, p. 584) defined involvement as the number of conscious bridging experiences or personal references per minute, that the subject makes between the content of the persuasive stimulus and the content of his own life. Since Krugman's earlier definition of involvement, countless other definitions have been set forth (Day 1970; Bowen and Chaffe 1974; Houston and Rothschild 1978; Bloch 1981). Despite great variation in the definitions of involvement, there appears to be a general consensus that involvement means personal relevance or importance (Antil 1984; Greenwald and Leavitt 1985). Beyond this general consensus however, various approaches to the involvement construct differ with respect to four

dimensions: 1) content, 2) object, 3) nature, and 4) intensity (Costley 1988).

The content dimension refers to the different types of involvement: situational involvement, enduring involvement, and response involvement (Housten and Rothschild 1978). Situational involvement is the degree of involvement elicited from an individual's concern for his/her behavior in a situation. Product-related stimuli such as cost, elapsed time of consumption, and complexity of the product/service and/or social psychological stimuli such as presence or absence of relevant others during purchase and/or consumption combine to create situational involvement.

Enduring involvement reflects the strength of the preexisting relationship between an individual and the situation in which behavior will occur. This type of involvement represents the consumer's ongoing concern with a product/service that transcends situational circumstances. Housten and Rothschild (1978) suggest that enduring involvement is a function of 1) prior experience with the object, issue or situation and 2) strength of values to which the product is related.

Response involvement reflects the complexity or extensiveness of consumer decision making. According to Housten and Rothschild (1978), situational and enduring involvement combine to influence response involvement. Although situational and enduring involvement elicit similar responses, the temporal patterns of behavioral response appear to differ across involvement types (Richins and Bloch 1986). Richins and Bloch (1986) found that behavioral responses resulting from situational involvement decayed over time.

It has been noted that involvement must have a focus (Mitchell 1979). That is, to be involved one must be involved with something. In the context of consumer behavior, the object of involvement may be a product, an ad, or a situation (Costley 1988). One may also add services as potential objects of involvement. In this dissertation, the object of involvement is the patient's upcoming office visit with a physician.

Involvement may be affective or cognitive in nature (Park and Young 1983; Park and McClung 1986). As with other constructs, affective involvement represents the expressive, emotional type of involvement whereas cognitive involvement represents the functional type of involvement.

Generally, intensity of involvement is referred to in terms of high and low. There have been some arguments made for measuring involvement profiles (Laurent and Kapferer 1985) or measuring involvement on a continuum rather than as a dichotomy (Antil 1984). Measurement issues will be discussed in Chapter Three.

Summary

Empirical evidence supports the notion that involvement influences satisfaction processes for products (Oliver and Bearden 1983). The relative influence of expectations/disconfirmation and performance appears to depend largely upon one's involvement with the product in question. Although more empirical research is warranted, high involvement appears to strengthen the impact of product performance on satisfaction. In contrast, the traditional disconfirmation paradigm appears to hold relatively well for low involvement situations. It remains to be seen

whether these findings hold for services as well.

This research extends the work of Oliver and Bearden (1983) by examining the influence of involvement on satisfaction processes for health care services. Traditionally, health care has been considered a high involvement situation. However, it is not the product or service per se that is involving but the personal meaning or significance the individual attributes to the characteristics of that product or service that results in involvement (Antil 1984). In other words, it is the individual's interpretation of the stimuli and not the stimuli itself that determines the level of involvement. Thus, people vary in their level of involvement which is why it is dangerous to assume that a particular product or service will be "high involvement" for all consumers (Antil 1984). Patient involvement may vary with the level of risk and uncertainty associated with type of care sought, the seriousness of the illness, the costs involved in care, and the personality of the person seeking care (Barber and Venkatraman 1986).

Proposed Effects of Involvement on Patient Satisfaction Model

Following Oliver and Bearden (1983), the influence of involvement on satisfaction formation for health care services will be investigated by examining the proposed model separately for groups of patients with varying degrees of reported involvement. Table 2.2 summarizes the hypotheses regarding the influence of involvement on patient satisfaction formation. Also included in Table 2.2 are previous studies which support hypothesis 7a and 7b.

Table 2.2

Hypotheses and Supporting Research Findings

H7a:	Satisfaction is most strongly influenced by perceived performance under conditions of high consumer involvement.	Churchill and Surprenant (1982) Oliver and Bearden (1983)
H7b:	Satisfaction is most strongly influenced by expectations and disconfirmation under conditions of low consumer involvement.	Churchill and Surprenant (1982) Oliver and Bearden (1983)

Conclusion

The research presented here proposes a model of consumer satisfaction with health care services. This research extends previous work in the services marketing literature and the health care literature by attempting to develop and test a more comprehensive model of patient satisfaction. Unlike previous research on patient satisfaction, the proposed model:

1) Examines the structural relationships among expectations, disconfirmation, performance, and satisfaction for health care services.

2) Examines more fully the influence of role dimensions and nonbehavioral dimensions (access mechanisms) on satisfaction with health care services.

3) Conceptualizes and tests the influence of consumer role expectations and behavior on satisfaction with health care services.

4) Examines the influence of involvement on satisfaction formation for health care services.

CHAPTER 3

Methodology

Chapter Three describes research methods and analyses and is divided into three sections. The first section outlines the design of the study. Included in this section is a description of the study setting, sample design and data collection procedure. The second section presents measures and operationalizations of the model constructs. Included in this section is a description of the questionnaire development process which consisted of a literature review, two focus groups, and a questionnaire pretest. Also included in this section is a discussion of relevant measurement issues. The third section outlines the analyses for the measurement and structural models. Also included in this section, is a description of how the effects of involvement were tested.

Design of the Study

Setting

In Chapter One, the characteristics of professional services were presented and the argument was made that these characteristics make professional services, particularly the technical dimensions of professional services, difficult for consumers to evaluate. Difficulty in evaluation forces consumers to rely on different cues and processes when evaluating professional services. The assertion was made that one of the most important cues available to consumers for evaluating these types of services is their observations and perceptions of the provider's behavior. Consumer reliance on the behavioral dimensions of professional services suggests that role

theory may provide a useful conceptual framework in which to model consumer satisfaction.

Although the argument was made that the proposed model is applicable across a wide variety of professional services, the model was initially tested within the context of one type of professional service, medical services. In Chapter Two, a review of the applications of role theory in the marketing literature strongly suggested that the usefulness of role theory as a conceptual framework was highly contingent upon the operationalization of the role concept. Roles should be richly described in terms of activities, attitudes, and behaviors of the role players. It was felt that to develop role measurements that would generalize across diverse professional services would inhibit the author's ability to thoroughly describe both the professional's and the client's roles. Rather than risk the use of poor role operationalizations, the author choose to initially limit the test of the model to one type of professional service. Of course, the alternative is to develop separate role measurements for each type of professional service. Given limited resources, this alternative was not viable at this time. It does, however, provide an interesting extension of the present study.

Medical services were chosen as the context of this study for a number of reasons. First, in at least one study of satisfaction with professional services medical services were cited as being the most dissatisfying of professional services (Quelch and Ash 1981). Being both important and dissatisfying to consumers, medical services would appear to be a worthy context in which to test the proposed

model. Second, the wealth of health care literature provided valuable insight into the behavioral dimensions that comprise the physician's role. Although research on the patient's role was less voluminous, there were at least several studies in the medical sociology literature that provided some initial guidance regarding the behavioral dimensions of the patient's role. Research for other professional services was far less expansive. For these reasons, medical services appeared to be a good choice for an initial test of the proposed model.

Population, Sample Size, and Sample Design

The population from which the sample was drawn consisted of adult patients aged 18 or older in the Baton Rouge, Louisiana, metropolitan area. A judgement sampling procedure was utilized to sample 320 patients. 130 patients completed usable first and second questionnaires for a response rate of 41%. The following constraints were observed:

-respondents visited the physician during the study period;
-respondents displayed varying degrees of involvement with the upcoming office visit;
-respondents were able to complete the first questionnaire (assessing expectations) prior to seeing the doctor.

The source of study participants was obtained from a large orthopedic clinic. One large group practice was chosen over many independent practices to ease the data collection procedure. In exchange for the clinic's participation in the study, the researcher agreed to provide the clinic with a summary of the research results. The report included a summary of patient expectations, patient perceptions of the clinic's performance, and overall patient satisfaction with the clinic. The researcher also

made recommendations for improving patient satisfaction. A profile of the clinic's patient base was also included in the report.

Respondents recruited for the study were offered a monetary incentive which consisted of a lottery distributing two prizes among the study participants. Each of the lottery winners received $50 towards a dinner at Mansur's Restaurant in Baton Rouge, Louisiana.

The sampling design was considered acceptable because the focus of the dissertation was theory testing rather than application. Several researchers have argued in support of this position (Suchman 1962; Calder et. al 1981, 1982, 1983). Furthermore, in this situation random sampling designs would have increased the risk of obtaining descriptions and evaluations of health care that relied on experiences several years old. Locker and Dunt (1978) caution that respondents who have not recently experienced the health care service will base their responses on socially stereotyped conceptions of providers and services. They suggest several alternative approaches: 1) identify patients who have evidence of similar levels of service experience and then to analyze the data separately for the different groups, 2) restrict the sample to individuals who have received primary care in the year prior to the interview, and 3) limit the study population by interviewing patients immediately after a consultation and measure satisfaction with that consultation only (Locker and Dunt 1978). The later approach was chosen for this study so that respondents could be questioned both before and after the medical consultation. This allowed the researcher to avoid measuring expectations in retrospect as

suggested by Oliver (1981). For these reasons, it was felt that a judgmental sampling design was more appropriate than a random sampling design for this study.

Data Collection Procedure

The data collection procedure is described in this section. It is also summarized in Table 3.1. The researcher solicited participation from patients as they arrived for their appointments. At this time, the researcher informed the patient that the clinic, in conjunction with the Louisiana State University Department of Marketing, was conducting a study on patient satisfaction. Participation in the study required the patient to complete two questionnaires. The first questionnaire contained measurements for: ideal provider role, ideal own role, ideal access mechanisms, expected provider role, expected own role, expected access mechanisms, and involvement. Respondents completed the first questionnaire while waiting to see the doctor. As the patients left the clinic, they were given a second questionnaire. The second questionnaire contained measurements for: provider role disconfirmation, own role disconfirmation, access mechanisms disconfirmation, perceived provider performance, perceived own role performance, perceived access mechanisms performance, and satisfaction. Respondents were instructed to take the second questionnaire home, complete it, and then mail it in the envelope provided. The second questionnaire also contained some demographic and classification questions.

Lottery registration was accomplished with a stamped, addressed postcard containing spaces for the respondent's name, address, and telephone number.

Respondents found this postcard in the envelope of the second questionnaire. It was felt that a lottery registration form separate from the questionnaire would assure respondents of their confidentiality. Respondents were instructed in the cover letter to complete the lottery registration postcard after they had returned the second questionnaire. There was also a reminder at the end of the second questionnaire. To be eligible respondents had to return the second questionnaire within a specified period of time.

Table 3.1

Chronology of Data Collection Procedure

During the clinic visit:

1. Upon checking in for their appointment, participants were asked to participate in a study of patient satisfaction. Those patients who agreed to participate were given the first questionnaire.

2. Respondents completed the first questionnaire while in the waiting room. They returned the completed first questionnaire to the researcher.

3. Upon leaving the clinic, participants were given a second questionnaire to be completed at home. They were also given a form to register for the lottery.

After the clinic visit:

1. Respondents completed the second questionnaire and returned it in the envelope provided. The envelope was addressed to the researcher's office at Louisiana State University.

2. Respondents also completed and returned the lottery registration postcard. The postcard was addressed to the Marketing Department at Louisiana State University.

3. Lottery prizes were mailed to lottery winners.

Measures and Operationalizations

Five constructs comprised the theoretical model: 1) ideal performance, 2) expected performance, 3) perceived performance, 4) disconfirmation, and 5) satisfaction. The next several sections of this chapter discuss how each of these five constructs was measured in the dissertation research. Since each of the five model constructs was measured separately for the provider's role, the patient's own role, the staff's role and access mechanisms, a multi-step process was undertaken to develop behavior-specific and access mechanism-specific measures. This process is outlined following a general discussion of the model measurements. Finally, measurements for other constructs of interest are discussed separately in a later section of this chapter.

1. Expectations

As suggested by previous researchers (Miller 1977; Tse and Wilton 1988) multiple comparison standards were assessed in this research. Following the recent work by Tse and Wilton (1988), both ideal expectations and expectations were measured. Ideal expectations and expectations were defined in Chapter Two. As a review, ideal expectations represent the maximum or optimal level of product or service performance that a consumer ideally hopes for. Expectations represent an anticipated level of performance. Both ideal expectations and expectations were measured separately for the provider's role, the patient's own role, the staff's role and access mechanisms. Expectations were measured as the perceived belief probabilities associated with the occurrence of specific physician behaviors, specific

patient behaviors, specific staff behaviors and specific access mechanisms. Ideal expectations were measured as the perceived desirability associated with the occurrence of specific physician behaviors, specific patient behaviors, specific staff behaviors and specific access mechanisms. The scale development for ideal expectations and expectations will be explicated in a later section (see Multi-Step Process for Scale Development).

A number of problems with measuring expectations in retrospect have been noted earlier in this chapter (see Oliver 1981). For this reason, measurement of ideal expectations and expectations were taken before seeing the physician (Questionnaire One).

2. Perceived Performance

Until Churchill and Surprenant's (1982) research, performance was not traditionally measured as a construct distinct from disconfirmation. Churchill and Surprenant (1982) assessed perceived product performance by using both a single-item global measure and a multi-item, attribute-specific measure whereby responses to individual attributes are summed to generate the overall construct. Attribute-specific measures of perceived performance were employed in this study. Perceptions of physician role performance, own role performance, staff role performance and service access mechanism performance were measured separately. Respondents were asked to indicate on a 5-point agree-disagree scale whether specific physician behaviors, patient behaviors, staff behaviors and access mechanisms occurred during the office visit with the doctor. The development of

the perceived performance scales will be discussed later (see Multi-Step Process for Scale Development). Measurements for perceived performance were secured after the service encounter (Questionnaire Two).

3. Disconfirmation

Different approaches for operationalizing the disconfirmation construct were discussed in Chapter Two. In review, the two basic approaches are: subtractive disconfirmation and subjective disconfirmation. Subtractive disconfirmation is measured by taking the algebraic difference between respondent's prior expectations and their perceptions of service performance. Subjective disconfirmation is measured as consumers' perception that the service performance was better or worse than expected. With the exception of one study (Swan and Trawick 1980), subjective approaches to modeling disconfirmation have been shown to be superior to subtractive approaches (Oliver 1980; Tse and Wilton 1988). Subtractive disconfirmation has also been noted to result in lower reliabilities due to the use of difference scores (Prakash and Lounsbury 1983). For these reasons, subjective disconfirmation was utilized in this study. Once again, subjective disconfirmation was measured separately for the physician's performance, one's own performance as patients, the staff's performance and access mechanism performance. The better- and worse-than-expected scale which has been successfully used in the literature (Oliver 1977, 1980; Swan and Trawick 1980; Linda and Oliver 1979; Westbrook and Oliver 1981) was used for individual role behaviors and access mechanisms as well as for overall impressions of the service provided. Further elaboration of the

disconfirmation scales is provided later in this chapter (See Multi-Step Process for Scale Development). Disconfirmation will be assessed after the service encounter (Questionnaire Two).

4. Satisfaction

Traditionally satisfaction has been measured using one of two methods. Respondents have either been asked to talk openly about the product or service or they have been asked to respond to a series of direct questions about their satisfaction with the product or service. In some studies, both methods have been employed. There is evidence that the two methods produce different results (Locker and Dunt 1978). Respondents may report satisfaction/dissatisfaction with particular attributes of a product or aspects of a service when asked directly yet they fail to spontaneously mention these attributes or aspects in response to open ended questions. This is similar to the problem of under-reporting which has received considerable research attention. The problem of under-reporting can be avoided by the concurrent use of both methods. Locker and Dunt (1978) suggest that respondents be asked to comment favorably and critically on the services they have received and then follow these comments by a series of direct questions on different aspects of the service.

Another critical issue in the measurement of satisfaction is the manner in which satisfaction with a product or service may be rated. According to Henley and Davis (1967), there are three approaches commonly used in the patient satisfaction literature:

1) a global evaluation,
2) a satisfaction measure for each aspect of an individual's medical care,
3) a composite measure derived from separate responses to each aspect of an individual's medical care.

Locker and Dunt (1978) provide a discussion of these three approaches. Global evaluations which ask respondents how satisfied they are in general tend to be very crude measures of satisfaction. The majority of studies indicate that level of satisfaction varies with different aspects of a service. Because global evaluations are very general, they tend to mask these differences. Since they do not take into account specific instances of dissatisfaction, global evaluations also tend to be biased towards the satisfaction end of the scale. Global evaluations are also too crude to allow comparisons across services. Finally, global evaluations provide no means of identifying what aspects of a service need to be improved in order to increase customer satisfaction.

In contrast to global evaluations, the other two approaches to rating satisfaction distinguish between separate facets of a service. One approach treats items as discrete facets of the service, the other composites individual items to arrive at an overall score of satisfaction. Locker and Dunt (1978) recommend that respondents be asked to describe what happened during the service encounter before they rate themselves on a satisfied-dissatisfied scale. This should enhance the validity of the satisfaction ratings (Locker and Dunt 1978). This approach was adhered to for this dissertation.

In the marketing literature, all three approaches have been employed. Churchill and Surprenant (1982) used both global evaluations and attribute-specific

evaluations in their study. Oliver (1980) relied on a six item global evaluation scale. Studies have also varied in terms of the types of scaling used. The most common being verbal, graphic, Likert, and semantic differential. In a multi-trait, multi-method analysis of the various measurement approaches specific to the satisfaction construct, Westbrook and Oliver (1981) found that the Likert and semantic-differential scales had the highest reliabilities and convergent and discriminant validity. Moore and Shuptrine (1984) found similar results: a multiple-item Likert scale represented the satisfaction construct better than a percent scale or a delighted-terrible scale.

Following Locker and Dunt's (1978) recommendation, satisfaction in this study was measured using both open and close ended questions. First, respondents were given an open ended question regarding their overall evaluation of the service. Then respondents were required to respond to a Likert item scale based on Oliver's (1980) satisfaction scale. These items are global in nature. The second questionnaire also contained Likert scales which are more specific in nature. These scales address satisfaction with aspects of the physician's role, satisfaction with aspects of one's own role, satisfaction with the staff, and satisfaction with the service access mechanisms. The development of the satisfaction scales will be elaborated on in the next section of this chapter.

Multi-Step Process for Scale Development

The construction of role specific scales and access mechanism specific scales followed the measurement development procedure outlined by Churchill (1979):

1. The dimensions of the physician role constructs, patient role constructs, and access mechanisms were specified.
2. An initial sample of items was generated. Through consultation with expert judges, poorly worded or redundant items were then eliminated.
3. The initial scale items were administered to a pretest sample. Sample items were evaluated in terms of internal consistency and factor structure. Items that did not meet statistical criteria were eliminated. The reduced scale was again evaluated in terms of internal consistency and factor structure.
4. Confirmatory factor analyses were also run as a means of further instrument refinement.

The next sections outline these steps in greater depth.

STEP ONE: FORMULATE ROLE DIMENSIONS AND ACCESS MECHANISM DIMENSIONS

First, drawing on over seventy articles published in either the health care marketing literature or the sociology of medicine literature, role dimensions and service access mechanisms of importance to health care consumers were identified. As reviewed in Chapter Two, the literature suggested three dimensions for the provider's role: 1) expressive behaviors, 2) communicative behaviors, and 3) instrumental behaviors. Three similar role dimensions were identified for the patient's own role: 1) expressive behaviors, 2) communicative behaviors, and 3) decision making behaviors. Five access mechanisms were consistently found in the

literature: 1) access, 2) availability, 3) convenience, 4) finances and 5) physical environment.

Focus Group Discussions

To assist in the formulation of role dimensions, two focus group discussions were conducted. It was hoped that the discussions would provide further evidence for the role dimensions identified in the literature. The focus group discussions were directed to explore both patients' expectations and perceptions of medical personnel role behavior and patients' expectations and perceptions of their own role behavior. Since service access mechanisms are well documented in the literature, they were not included as topics of discussion during the focus group interviews, although in some instances they did come up in conversation.

The two focus group interviews were conducted through a large hospital in Baton Rouge, Louisiana. Each session lasted several hours. The first group consisted of seven women. Within the past year, all of these participants had been OB\GYN patients at the participating hospital. The second group consisted of eight women and two men. These participants are or were recent patients of the infertility program at the hospital. All participants were between the ages of 18 and 44. Most of the participants lived in Baton Rouge, Louisiana. A few participants lived in areas adjacent to Baton Rouge such as Zachary and Denham Springs, Louisiana.

The procedure utilized for both focus groups was as follows: the focus group moderator explained the research topic and outlined a number of ground rules. A series of open-ended questions were discussed. The sessions were recorded on an

audio cassette.

A review of the focus group transcripts revealed a great deal of consistency between the two groups with respect to behaviors expected of medical personnel. The behaviors mentioned most often by the group participants can be loosely classified into one of several categories: caring behaviors, communicative behaviors, and technical behaviors.

1. The following behaviors are representative of what could be called CARING BEHAVIORS:

*Caring for the patient's well-being
*Being concerned
*Being sympathetic
*Being empathetic
*Getting involved with the patient
*Acting as an advocate for the patient
*Feeling for the patient
*Being sensitive to the patient's needs
*Respecting the patient's wishes
*Allowing the patient a voice in their medical care
*Being supportive
*Being kind
*Being friendly
*Being warm
*Being considerate
*Extending common courtesies
*Not being rude
*Being reassuring
*Being comforting
*Making the patient feel comfortable
*Putting the patient at ease
*Giving full attention to the patient
*Giving personalized treatment and attention
*Spending time with the patient
*Not rushing the patient
*Being understanding of the patient's physical and mental state

The participants often referred to these types of behaviors as the doctor's or

nurse's 'bedside manner'.

2. The following behaviors are representative of what could be called

COMMUNICATIVE BEHAVIORS:

*Explaining things in clear and easily understood language
*Being open and honest
*Giving information
*Giving explanations
*Explaining procedures
*Giving step by step descriptions during procedures
*Giving the patient the facts
*Answering all the patient's questions
*Discussing alternatives
*Giving advice
*Giving opinions
*Giving warnings of possible side effects
*Listening to the patient
*Finding answers to questions they don't immediately know the answer to

3. The following behaviors are representative of what could be called

TECHNICAL BEHAVIORS:

*Being competent
*Being knowledgeable
*Knowing what to do
*Not making mistakes
*Being experienced
*Being confident
*Being in control
*Being professional
*Taking the time to do a good job
*Being thorough
*Being gentle during examinations
*Being careful during examinations
*Having a good success rate
*Being aware of the latest developments in the field

In terms of frequency, respondents mentioned caring behaviors and communicative behaviors most often as sources of satisfaction/dissatisfaction. There

appears to be a strong relationship between the medical staff's 'bedside manner' and patient satisfaction. Showing that you care about a patient and giving the patient personalized attention appears to contribute to the patient's feeling of satisfaction. Good communication between medical personnel and the patient also appears to contribute to patient satisfaction. Many of the participants in both focus groups stated a preference or in fact, a right to be actively involved in the decision making process of their own health care. These patients considered it part of the medical staff's role to support them in this preference or right.

While caring behaviors and communicative behaviors were mentioned more frequently than technical behaviors, the point was made several times that no matter how wonderful a member of the medical staff's bedside manner or no matter how wonderful the communication between a member of the medical staff and a patient, the bottom line is technical performance. In the words, of several participants:

> "I need to know that the guy knows what he's doing above anything else."
>
> "No matter what personality this man has, no matter how good his bedside manner is, the bottom line is you want a baby. Let's get right down to it, you don't care who gets you pregnant, just as long as you get good results."

It may be that technical performance is a necessary but nonsufficient condition for patient satisfaction. It appears that patient satisfaction also depends largely upon the medical staff's performance with respect to both caring and communicative roles. As well as, their ability to support the patient in his/her role as decision making participants.

With respect to the patient's own role, a review of the focus group transcripts

once again revealed a great deal of consistency between the two groups with respect to what patients consider their own role to be in medical settings. As with the health care provider role behaviors, the patient role behaviors can be loosely grouped into several categories: expressive behaviors, communicative behaviors, and decision making behaviors.

The following behaviors are representative of what could be called EXPRESSIVE BEHAVIORS:

*Sharing personal philosophies (i.e. birthing philosophies, abortion, etc.)
*Sharing fears
*Sharing anxieties
*Trusting the doctor
*Being respectful
*Being understanding
*Sharing the emotional effects of the medical problem

The following behaviors are representative of what could be called COMMUNICATIVE BEHAVIORS:

*Asking questions
*Asking for advice
*Telling the doctor everything
*Describing symptoms
*Asking about anticipated problems
*Telling the doctor/nurse about discomforts
*Being open and honest
*Not holding back information
*Telling the doctor thoughts on what is wrong
*Telling your doctor about reactions to drugs, treatments, etc.

The following behaviors are representative of what could be called DECISION MAKING BEHAVIORS:

*Telling the doctor/nurse when you disagree with him/her
*Being informed
*Being aware
*Letting the doctor/nurse know your desires
*Knowing what you want and communicating it
*Telling the doctor/nurse what you need
*Telling the doctor/nurse what you want
*Having a say so in treatment decisions
*Being assertive
*Forcing your opinion
*Giving the doctor suggestions
*Communicating how you would like things done
*Asking the doctor for his/her background information (i.e. schooling, success rates, experience, etc.)

Traditionally, the patient's role in health care has been considered to be a relatively passive one. Recently, however the health care literature suggests that the trend may be towards a more active patient role in the delivery of medical services. The research presented here appears to support this notion. By far, the patient role behavior mentioned most frequently by the participants was related to their decision making role in the medical setting. These participants considered it not only their duty but their right to be involved in the delivery of their own health care.

For the most part, the participants in both focus groups appeared to be satisfied with the care provided by the hospital. In the OB/GYN focus group, most of the positive comments had to do with the medical staff's caring behaviors: being friendly, comforting, and taking the time to talk with the patients. The negative comments had to do with: rude technicians and nurses, ignoring patient wishes,

nonresponsiveness and lack of attention of floor nurses, bad experiences with anesthesiologists, not accommodating the patients with special desires, and the business office--billing mistakes, rudeness, perception of unfair fees.

The comments by the fertility patients tended to be extremely positive, much more so than the OB/GYN patients. Positive comments from this group focused on the caring behaviors of the staff at the hospital: caring about the patient, treating the patient as a person, being warm and friendly, making the patient feel comfortable, understanding the patient, understanding the emotions faced by the patient, listening to the patient, accommodating the patient and the husband of the patient, being available to the patient, showing the patient how treat themselves, and giving the patient confidence. The negative comments appeared to represent isolated events. A major source of dissatisfaction with the hospital for these patients was the operation of the business office and the admissions office.

STEP TWO: GENERATE INITIAL POOL OF ITEMS

The second step was to generate a sample of items for each of the model constructs. With the exception of satisfaction, corresponding items were constructed for ideal performance, expected performance, perceived performance, and disconfirmation. In other words, items were similar for each of these constructs but phrased differently. For example, an item written to measure ideal performance in terms of the doctor's communicative role read, "I wish the doctor would carefully explain why he/she does certain things" (5 point agree-disagree format). The corresponding item for expected performance read, "The doctor will carefully

explain why he/she does certain things" (5 point likely-unlikely format). The corresponding item for perceived performance read, "The doctor carefully explained why he/she did certain things" (5 point agree-disagree format). The corresponding item for disconfirmation read, "The extent to which the doctor explained why he/she did certain things" (5 point better than-worse than expected format). For each of the role dimensions and access mechanisms, general disconfirmation and satisfaction items were also constructed. Extending our example, a general disconfirmation item for provider's communicative role read, "My expectations of the amount of information provided to me by my doctor were:" (5 point better than-worse than expected format). A behavior-specific satisfaction item read, "How satisfied are you with your doctor's provision of information" (5 point satisfied-dissatisfied format).

Whenever possible items constructed in previous research were adapted for this study. Some items that were originally constructed as macro measures of health care satisfaction were rewritten as micro measures (see Table 3.2 for a list of studies from which items were adapted). The majority of items, particularly for the patient role constructs, were composed by the author and subjected to expert judgement. The initial battery of items generated for each construct is summarized in Table 3.3.

Table 3.2

Studies From Which Items Were Adopted

Provider Role:

Hulka, Zyzanski, Cassel, and Thompson (1970)
Ware, Synder, and Wright (1976)
Wolf, Putnam, James, and Stiles (1978)
Davies and Ware (1981)
Linder-Pelz (1982)
Eisenthal, Koopman, and Lazare (1983)
Parasuraman, Zeithaml, and Berry (1986)
Brown and Swartz (1987)

Patient Role:

Vertinsky, Thompson, and Uyeno (1974)
Lorber (1975)
Eisenthal, Koopman, and Lazare (1983)
Brown and Swartz (1987)

Access Mechanisms:

Hulka, Zyzanski, Cassel, and Thompson (1970)
Larsen and Rootman (1976)
Ware, Synder, and Wright (1976)
Wolf, Putnam, James, and Stiles (1978))
Davies and Ware (1981)
Linder-Pelz (1982)
Parasuraman, Zeithaml, and Berry (1986)
Brown and Swartz (1987)

Satisfaction:

Oliver (1980)

Involvement:

Zaichkowsky (1985)

Table 3.3

Initial Battery of Items

Construct	Items
Ideal provider performance	47 items
Ideal own patient performance	44 items
Ideal staff performance	7 items
Ideal access mechanisms	13 items
Expected provider performance	47 items
Expected own patient performance	44 items
Expected staff performance	7 items
Expected access mechanisms	13 items
Perceived provider performance	47 items
Perceived own patient performance	44 items
Perceived staff performance	7 items
Perceived access mechanisms performance	13 items
Global disconfirmation	15 items
Disconfirmation provider performance	47 items
Disconfirmation own patient performance	44 items
Disconfirmation staff performance	6 items
Disconfirmation access mechanisms	13 items
Global satisfaction	13 items
Satisfaction with physician performance	23 items
Satisfaction with own patient performance	11 items
Satisfaction with staff performance	3 items
Satisfaction with access mechanisms	13 items

Items for overall satisfaction, ideal performance, and perceived performance were scaled according to a 5-point Likert-type format (whereby 1 = strongly agree and 5 = strongly disagree). Items for expected performance were scaled according to a 5-point format (whereby 1 = very likely and 5 = very unlikely). Items for satisfaction with the physician's behavior, satisfaction with one's own behavior, satisfaction with the staff's behavior and satisfaction with access mechanisms were scaled according to a 5-point format (whereby 1 = completely dissatisfied and 5 = completely satisfied). Items for disconfirmation were scaled according to a 5-point format (whereby 1 = worse than and 5 = better than).

Other Variables of Interest

In Chapter Two, involvement was presented as a possible mediating effect in the proposed role theoretical model. Involvement in this study was measured in two ways-by a semantic differential scale and by a Likert scale. The first scale, the Personal Involvement Inventory, was originally developed by Zaichkowsky (1985) and later revised by McQuarrie and Munson (1987). Although the original inventory contained 20 items, only 16 were included in the pretest questionnaire. The other four items did not appear to be appropriate for this research. The second scale was developed for this research by the author and consisted of 13 items designed to measure perceived importance of the doctor's visit.

Standard demographics were utilized to determine gender, age, marital status, education, and income.

STEP THREE: PRETEST

The pretest sample consisted of 116 adults aged 18 or older. Respondents resided in either the metropolitan area of Baton Rouge, Louisiana or San Francisco, California. Table 3.4 provides a summary of the pretest sample characteristics.

The measurements for the following constructs were included in the pretest questionnaire: satisfaction (global, doctor's role, patient's own role), perceived performance (doctor's role and patient's own role), disconfirmation (global for doctor's role and patient's own role), ideal expectations (doctor's role and patient's own role), involvement, and perceived importance. Due to space limitations, scales for the staff and access mechanisms submodels were not included in the pretest. Also due to space limitations, items for only one comparison standard were pretested, ideal expectations. As was previously discussed, items measuring expectations were similar to items measuring ideal expectations. It was felt that the scales for expectations and ideal expectations could be refined by pretesting only one of these comparison standards.

The procedure for scale refinement was as follows: 1) Initial reliabilities based on Cronbach's Alpha were run for each of the constructs. Items for the various scales were initially evaluated in terms of corrected item-total correlations. Those items with corrected item-total correlations below .40 were eliminated.

2) For each of the constructs, principle components analysis was conducted on the remaining items. Items were eliminated at this stage if they had factor loadings below .50 and/or if they did not exhibit simple structure.

3) Reliabilities were run on the reduced scales. Again, items with corrected item total correlations below .40 were eliminated.

STEP FOUR: CONFIRMATORY FACTOR ANALYSES

As a means of further instrument refinement, confirmatory factor analyses were run. A separate model was run for the satisfaction constructs, provider role constructs, patient role constructs, and involvement constructs. At this stage, individual items were eliminated if they had standardized loadings of less than .70 and/or if they exhibited poor content validity. The resulting reliability estimates are shown in Table 3.5. All construct reliability coefficients were well within what is considered acceptable ranges in marketing and psychology research (.70 to .80) (Nunnally 1978). Table 3.6 provides a summary of the operationalization of constructs.

Table 3.4

Pretest Sample Characteristics

Characteristic	Sample Description
Sex:	
Female	58.1%
Male	40.2%
Marital Status:	
Married	46.2%
Not Married	52.1%
Age:	
18 to 24	37.6%
25 to 44	42.8%
45 to 64	12.8%
65 and older	5.2%
Education:	
Less than 12 years	1.8%
12 or more years	49.6%
16 or more years	46.1%
Income:	
Less than $19,999	19.6%
$20,000 to $29,999	9.4%
$30,000 to $39,999	14.5%
$40,000 to $49,999	13.7%
$50,000 and over	34.2%

Table 3.5

Pretest Reliability Estimates

Construct	# Items	Alpha
Satisfaction: General	8	.95
Satisfaction: Doctor Role	13	.97
Satisfaction: Patient Role	8	.91
Disconfirmation: Global	11	.95
Performance: Doctor	9	.91
Performance: Patient	9	.83
Ideal Expectations: Doctor	13	.91
Ideal Expectations: Patient	10	.82
Involvement: Semantic Differential	9	.91
Involvement: Likert	9	.88

Table 3.6

Operationalizations of Constructs

CONSTRUCTS	OPERATIONALIZATIONS
Satisfaction	-Set of 2 open ended questions -7 item scale measuring global satisfaction with office visit (5 point agree-disagree Likert scale)
A. Doctor Role	-13 item scale measuring satisfaction with doctor's behavior (5 point satisfied-dissatisfied Likert scale)
B. Patient Role	-8 item scale measuring satisfaction with own behavior (5 point satisfied-dissatisfied Likert scale)
C. Staff Role	-3 item scale measuring satisfaction with the staff's behavior (5 point satisfied-dissatisfied Likert scale)
D. Access Mechanisms	-9 item scale measuring satisfaction with access mechanisms (5 point satisfied-dissatisfied Likert scale)
Perceived Performance	
A. Doctor Role	-9 item scale measuring perceptions of doctor's behavior (5 point agree-disagree Likert scale)
B. Patient Role	-9 item scale measuring perceptions of own behavior as a patient (5 point agree-disagree Likert scale)
C. Staff Role	-7 item scale measuring perceptions of staff's behavior (5 point agree-disagree Likert scale)

Table 3.6
continued

Operationalizations of Constructs

CONSTRUCTS	OPERATIONALIZATIONS
Perceived Performance	
D. Access Mechanisms	-13 item scale measuring perceptions of access mechanisms (5 point agree-disagree Likert scale)
Disconfirmation	-11 item scale measuring perceived discrepancy between prior expectations and perceived performance on a global level for doctor's role, patient's own role, staff's role, and access mechanisms (5 point worse than-better than scale)
A. Doctor Role	-12 item scale measuring perceived discrepancy between prior expectations and perceived performance for doctor's role (5 point worse than-better than scale)
B. Patient Role	-10 item scale measuring perceived discrepancy between prior expectations and perceived performance for own role as a patient (5 point worse than-better than scale)
C. Staff Role	-7 item scale measuring perceived discrepancy between prior expectations and perceived performance for staff's role (5 point worse than-better than scale)
D. Access Mechanisms	-11 item scale measuring perceived discrepancy between prior expectations and perceived performance for access mechanisms (5 point worse than-better than scale)

Table 3.6
continued

Operationalizations of Constructs

CONSTRUCTS		OPERATIONALIZATIONS
Ideal Expectations		
A.	Doctor Role	-13 item scale measuring perceptions of optimum behavior for doctor's role (5 point Likert agree-disagree scale)
B.	Patient Role	-10 item scale measuring perceptions of optimum behavior for patient's own role (5 point Likert agree-disagree scale)
C.	Staff Role	-7 item scale measuring perceptions of optimum behavior for staff's role (5 point Likert agree-disagree scale)
D.	Access Mechanisms	-13 item scale measuring optimum access mechanisms (5 point Likert agree-disagree scale)
Expectations		
A.	Doctor Role	-13 item scale measuring perceptions of probable behavior for doctor's role (5 point likely-unlikely scale)
B.	Patient Role	-10 item scale measuring perceptions of probable behavior for patient's own role (5 point likely-unlikely scale)
C.	Staff Role	-7 item scale measuring perceptions of probable behavior for staff's role (5 point likely-unlikely scale)
D.	Access Mechanisms	-13 item scale measuring perceptions of probable performance for access mechanisms (5 point likely-unlikely scale)

Table 3.6
continued

Operationalizations of Constructs

CONSTRUCTS	OPERATIONALIZATIONS
Involvement	-9 item scale measuring personal involvement with the upcoming doctor's appointment (5 point semantic differential scale) -10 item scale measuring perceived importance of the upcoming doctor's appointment (5 point agree-disagree Likert scale)
Patient Classification	-Appointment time (day of the week and time of day) -Patient type (new patient, returning patient with the same condition, returning patient with a new condition) -Number of times previously visited the clinic -Seen other doctors for this medical problem -Name of doctor -Number of times previously seen this doctor -Type of referral -Form of payment -Insurance coverage -Workman's compensation and disability
Demographic Variables	-Gender, marital status, age, education, and income

Data Analysis

This section is divided into six sections. The first section describes the scale development procedures employed for the role constructs, access mechanisms constructs, and involvement. The next two sections present reliability and validity assessment. Next the confirmatory factor analyses and structural equation modeling is described. The fifth section describes the proposed hypotheses testing. The final section describes how the proposed mediating effects of involvement was tested.

Scale Development Process

As discussed in the previous section, the development of scales for this study represents a multistage process. This process closely followed the methodology for developing better measures of marketing constructs proposed by Churchill (1979). During this process, every effort was made to ensure construct reliability and to test for validity.

The scale development process consisted of four stages. In stage one, dimensions of the role constructs and access mechanisms were specified. These dimensions were derived from an extensive review of the marketing and sociology of medicine literature and from the results of two focus group discussions. In stage two, an initial pool of items was constructed. In stage three, the initial pool of items were administered to a sample of respondents. These items were tested using standard psychometric procedures. In stage four, final scale modifications were made. The criteria utilized for evaluating the scales for internal consistency and validity will be discussed in the following section.

Reliability Assessment

According to Peter (1979) reliability indicates the degree to which measures are free from random or chance error. With repetition, reliable scales will produce consistent results across various samples and situations. Three primary methods exist for assessing reliability: test-retest, alternative forms, and internal consistency. Internal consistency reliability was utilized in this research. The most common criterion for estimating reliability based on internal consistency is coefficient alpha. In most cases, alpha is an appropriate criterion because the largest source of measurement error is generally due to sampling of content (Nunnally 1978).

While there are no hard and fast rules regarding how large alpha should be, Nunnally (1978) recommends that in the early stages of research reliability coefficients of .70 are acceptable. Over a five year period across five marketing publications, Peter (1979) calculated the median internal consistency correlation (primarily Cronbach's alpha) reported in the surveyed marketing studies to be .72. Following guidelines established in marketing and psychology, construct reliability coefficients of .70 will be considered sufficient for this study.

With the advent of structural equation models such as LISREL, researchers are now using individual item reliabilities provided by the programs. Using the LISREL program one can calculate the individual item reliability by squaring the standardized factor loading for that particular item. Construct reliabilities can also be calculating following a procedure outlined by Fornell and Larcker (1981). Construct reliabilities are calculated by summing the squared factor loadings and

dividing by the summated squared factor loadings plus the summated theta delta diagonals.

When one computes reliability using coefficient alpha the assumption is made that the items have equal reliabilities. This assumption is not made when computing reliabilities using LISREL which means that the composite reliability may be underestimated (Gerbing and Anderson 1988). In practice, the risk of underestimation is small unless the number of items in the scale is very small and/or the item reliabilities are very discrepant (Gerbing and Anderson 1988).

Validity Assessment

After testing the reliabilities of the measures, validity assessment was undertaken. Validity is typically defined as the degree to which instruments measure constructs which they are purported to measure. There are several different types of validity: content validity, criterion-related validity, and construct validity.

Content validity is concerned with the extent to which items of an instrument reflect the full domain of the construct. Obtaining content validity requires that one specify the domain of the content and then construct/select items associated with the domain of the content (Zeller and Carmines 1980). Since there is no objective criterion for determining whether a measure has obtained content validity, one must rely on "reason regarding the adequacy with which important content has been cast in the form of test items" (Nunnally 1967, p.82).

Criterion-related validity is concerned with the extent to which a measure is related to some criterion variable of interest. For example, since role theory

suggests that role expectations for one role player are interrelated to expectations for other role players in the role set, one way to validate the ideal performance scale for the physician is to calculate the correlation between this scale and the ideal performance scale for the patient. If the correlation is high, the measure would be considered valid for that criterion.

Although there are once again no hard and fast rules with respect to how high this correlation needs to be to consider the measure valid, there are a number of guidelines. The most common guideline is whether the correlation achieves statistical significance (Lundstrom and Lamont 1976; Szybillo, Binstock, and Buchanan 1979; Zaichkowsky 1985). This tends to be a very liberal guideline since statistical significance is sensitive to variations in sample size. With large samples statistical significance can achieved with small correlations. To be of practical significance, most researchers in social sciences consider correlations around .30 or greater to be acceptable (Ajzen and Fishbein 1980). This researcher will follow the later guideline: in testing criterion-related validity, significant correlations of .30 or above will be taken as evidence that a measure is assessing the construct of interest and is related to the criterion.

Construct validity is concerned with the extent to which measures correspond with latent constructs (Peter 1981). The process of construct validation is an ever extending process of development and testing. In other words, construct validation can not be established with a single study. Zeller and Carmines (1980) propose construct validation to consist of three stages. First, theoretical relationships

between constructs must be specified. Second, empirical relationships between the measures of the constructs must be examined. Third, empirical evidence must be interpreted in terms of how it clarifies the construct validity of the measure. Cronbach (1951) suggest that construct validation requires the development and testing of a "nomological network". That is, constructs need to be shown to be related to each other in an increasingly complex network of hypotheses and relationships.

For this research, evidence of construct validity will be provided to the extent that hypothesized relationships between constructs are statistically significant and correlations are greater than .30.

Confirmatory Factor Analysis and Structural Equation Modeling

Confirmatory factor analysis allows the researcher a number of advantages over exploratory factor analysis. Constraints may be imposed by the researcher to determine which pairs of factors are correlated, which observed variables are affected by a common factor, which observed variables are affected by a unique factor and which pairs of unique factors are correlated. Confirmatory factor analysis also allows the researcher to perform statistical tests to determine whether the sample data are consistent with the theory or the proposed model (Long 1983).

As an extension of confirmatory factor analysis, structural equation modeling provides a means of testing both the measurement model and the proposed theoretical model. Based on theory, the researcher provides a model which proposes relationships among a set of observed variables in terms of a generally smaller

number of unobserved or latent variables. First, the measurement model is examined by linking observed variables to latent variables through a factor analytic model. Second, the causal relationships among the latent variables are specified through a structural equation model.

In this research, confirmatory factor analysis and structural equation modeling was employed to test the proposed model hypotheses. The LISREL program (Joreskog and Sorbom 1984) provided the estimation program for the analyses.

Assessing Overall Model Fit

Several indicators were used to evaluate the adequacy of the factor and structural equation models. First, the results were examined for abnormal results such as negative error variances, correlations greater than one, and extremely large parameter estimates. In the advent of these problems, specification, identification, and input errors were checked for.

Second, global measures of fit were examined. A measure of fit commonly used in the literature is the chi-square statistic. The chi-square goodness of fit statistic provides a test of the null hypotheses that a given model provides an acceptable fit of the observed model. If the values of chi-square are larger than the critical value than the null hypotheses is rejected. This would suggest that the proposed model did not generate the observed data. The chi-square statistic has spurred a great deal of controversy (Darden 1981; Fornell and Larcker 1981; Fornell 1983). The major criticism of the chi-square statistic is that if the null

hypothesis is rejected, the research hypothesis is also rejected which is a reversal of the traditional role of hypotheses in statistical theory. This also means that the ability to reject the research hypothesis or power is not known. Not knowing power could result in rejecting the model when it is correct and supporting the model when it is incorrect (Fornell 1983).

Another criticism of the chi-square goodness-of-fit test is that it only compares two covariance matrices, it does not support conclusions about the significance of variable relationships in the model. A low and insignificant chi-square which implies a good fit may also indicate low and insignificant construct relationships. Weak observed relationships among variables actually increases the probability of obtaining a good fit (Fornell and Larcker 1981). This means that with low enough correlations the chances of supporting an incorrect model will be increased.

A number of alternatives to the chi-square goodness-of-fit test have been proposed. Joreskog and Sorbom (1984) advocate an adjusted goodness-of-fit index (AGFI). This index provides an indication of the relative amount of variances and covariances jointly accounted for by the hypothesized model. From a pragmatic view, AGFI values of roughly .9 or greater tend to suggest a meaningful model (Bagozzi and Yi 1988).

Another alternative to the chi-square statistic is the root mean square residual (RMSR). This index is the average of the residual variances and covariances. One advantage of this index is that it can be used to compare the fits of different models

to the same data. RMSR values should be low (Bagozzi and Yi 1988). Generally acceptable RMSR values are in the range of .03 to .09 (Han 1989; McQuiston 1989).

A third alternative to the chi-square test statistic is the normed fit index (NFI). The NFI developed by Bentler and Bonett (1980) indicates the relative decrease in lack of fit between two nested models. One of the models, the "null" model is more restricted than the other. For the "null" model the variance/covariance matrix of the observed variables is hypothesized as a diagonal matrix with the all off-diagonal elements equal to zero.

For this research, these indexes along with the chi-square statistic was utilized in evaluating how well the model fit the data. The following was used as evaluative criteria: 1) nonsignificant chi-square statistic (p-value > .05), 2) satisfactory goodness of fit index (AGFI > .9), 3) low RMSR (in the range of .03 to .09), 4) satisfactory normed fit index (NFI > .9).

Internal Structure Model Fit

The global measures of fit outlined in the previous section provide an indication of the overall adequacy of the proposed model but they tell us little about particular parameters or about aspects of the model's internal structure. In order to assess internal structure, measurement equations and their respective reliabilities were inspected. Reliabilities were derived from individual item reliabilities, composite reliabilities, and the average variance extracted from a set of measures of a latent variable. Based on the suggestions of Bagozzi and Yi (1988, p. 82), the

following was used as criteria for assessing internal structure fit: 1) high individual item reliabilities (greater than .5); 2) high composite reliabilities (greater than .6); 3) average variance extracted greater than .5; 4) significant parameter estimates confirming hypotheses; and 5) normalized residuals less than 2.

Hypotheses Tests

Hypotheses H1 to H6-Structural Model Test

Hypotheses H1 to H6 were tested jointly through the use of a structural equation model which specifies the linkages between observed variable indicators and latent constructs. It also specifies causal paths between constructs. The proposed role theoretical model of service satisfaction was tested using LISREL VI. The hypotheses were tested separately for each submodel and then jointly for an overall model of satisfaction. Evaluative criteria for model fit and internal structure have been discussed earlier in this chapter.

H7a and H7b

In the previous analyses, the LISREL VI program was used to analyze data from a single sample. The LISREL program was also used to analyze data from the involvement samples simultaneously. Multi-sample LISREL analysis has been used in several research studies (Joreskog 1971; McGaw and Joreskog 1971; Sorbom 1974, 1975, 1978, 1981; Joreskog and Sorbom 1980; Sorbom and Joreskog 1981; Werts et. al. 1976, 1977; Alwin and Jackson 1981; Mare and Mason 1981; and Lomax 1983).

First, confirmatory factor analyses were performed on the two involvement

scales (the semantic differential scale and the Likert scale). Items that appeared to be detracting from the internal consistency and unidimensionality of the scales were eliminated at this stage. Respondents were then classified into different involvement groups. Patient involvement categories were defined by a median split as is commonly done in the marketing literature.

Once categories of involved patients were identified, multi-sample LISREL analyses were used to test whether the correlation matrices of the observed variables were equal for different groups. "In general, any degree of invariance can be tested, from the one extreme where all parameters are assumed to be invariant over groups to the other extreme where there are no constraints across the groups" (Joreskog and Sorbom 1988, p.228). To define equality constraints between groups, one specifies the constrained elements as free for the first group, and equality constraints in each of the other groups (Joreskog and Sorbom 1988). To assess the impact of involvement on the proposed structural models, four separate multi-sample analyses were performed for each submodel: 1) with the expectations to satisfaction parameter constrained to be equal, 2) with the performance to satisfaction parameter constrained to be equal, 3) with the disconfirmation to satisfaction parameter constrained to be equal, and 4) with the constraints relaxed.

The overall goodness-of-fit measures for the models with equality constraints imposed was compared to the chi-square statistic when the equality constraints were relaxed. A drop in the value of the chi-square statistic when the constraints were relaxed compared to the value of the chi-square statistic when constraints were

imposed suggest that the hypothesis of equal correlation matrices between involvement groups is tenable (Joreskog and Sorbom 1988). To test the significance of the difference in the estimates of any particular coefficient (or set of coefficients) in the high and low involvement samples, a difference chi-square procedure discussed by Hayduk (1987) was used. First, stacked models with the previously discussed coefficients constrained to be equal were estimated, and then the model was reestimated with the coefficients unconstrained. The difference between the chi-square values and degrees of freedom is a test of whether the freeing of coefficients gave a significant improvement in fit.

In addition to the chi-square difference test, the proposed hypotheses regarding the influence of involvement on the proposed theoretical model were tested by comparing the patterns of relationships found for the two samples. First, significant predictors of satisfaction were ranked in magnitude. Second, the order of the predictors of satisfaction were compared for the two involvement samples. In review, it was predicted that performance would rank first followed by expectations and disconfirmation for the high involvement sample. Conversely, it was predicted that expectations and disconfirmation would rank first followed by performance for the low involvement sample.

Presentation of Results

The primary findings of this research is presented in two separate chapters. Chapter four discusses sample characteristics, analyses results for both the overall measurement model and structural model and findings regarding mediating influences of consumer involvement on satisfaction formation. Chapter five presents a discussion of the results, research and managerial implications, and recommendations for future research.

CHAPTER FOUR

Analysis and Results

Chapter four describes analyses and results. As was discussed in previous chapters, the proposed theoretical model can be thought of as consisting of four submodels: doctor, patient, staff, and access mechanisms submodels. The approach taken in analyzing the dissertation data was to test the proposed hypotheses for each of the submodels separately and then to integrate the submodels into an overall model of patient satisfaction.

The organization of the chapter follows this approach. The chapter begins with a description of the obtained sample. The next four sections of the chapter present the analyses and results for each of the submodels. In each of these sections, both the measurement model and theoretical model are evaluated. First, the dimensionality of the submodels are evaluated via confirmatory factor analysis. Second, the proposed hypotheses are tested for each of the structural submodels. These four submodels are then integrated into an overall model of patient satisfaction. Following the presentation of results for the overall model of patient satisfaction, the results from a test of the hypothesized effects of involvement on the model is presented. The final section of the chapter provides a brief summary of the findings.

Sample Characteristics

To assess the representativeness of the dissertation sample, the demographic characteristics of the dissertation sample were compared to characteristics of the

adult population residing in the Baton Rouge metropolitan area (see Table 4.1).

Every attempt was made to sample patients across different days of the week and times of the day. Care was also taken to sample both new patients and old patients. Patients were classified as new patients (NP), old patients with a new medical condition (OPNC), and old patients with the same condition (OPSC). Table 4.2 shows that with the exception of old patients with a new condition, a relatively equal proportion of patients were obtained across different days of the week, appointment times, and types of patients.

TABLE 4.1

Demographic Characteristics of Population and Sample

Characteristic	Baton Rouge MSA[1]	Sample	
Gender			
Male	47.5%	45.7%	
Female	52.5%	54.3%	
Marital Status			
Single	19.7%	34.5%	
Married	80.3%	65.5%	
Age			
18 to 24	23.9%	10.7%	
25 to 44	42.6%	56.5%	
45 to 64	23.2%	25.9%	
65 and older	10.2%	6.9%	
Education			
12 or more years	68.2%	71.0%	
16 or more years	19.6%	29.0%	
Household Income			1980 Dollars[2]
Less than $19,999	61.8%	22.4%	37.8%
$20,000-$29,999	17.8%	9.6%	13.5%
$30,000-$39,999	9.8%	20.0%	11.8%
$40,000-$49,999	4.6%	17.6%	9.6%
$50,000 and over	5.9%	30.4%	26.9%

[1] Source: 1984 U.S. Census reports
[2] Consumer price index was used to adjust sample data to reflect 1980 dollars.

TABLE 4.2

Patient Characteristics

(N=131)

Characteristic	Percentage of Respondents
Day of the Week	
Monday	25.6%
Tuesday	21.7%
Wednesday	18.6%
Thursday	20.2%
Friday	14.0%
Time of the Day	
Before Noon	40.3%
After Noon	59.7%
Type of Patient	
New Patient	36.2%
Old Patient New Condition	13.6%
Old Patient Same Condition	50.3%

Although the questionnaires were pretested, the pretest of the first questionnaire did not occur in a clinic setting. Consequently, several problems that occurred in collecting the data in a clinic setting were not anticipated. As the reader will recall, the first questionnaire contained measurements for ideal expectations, expectations, involvement and some patient classification questions. The length of questionnaire prohibited many patients from completing the entire questionnaire prior to seeing the doctor.

Another problem associated with the first questionnaire was the similarity of items measuring ideal expectations and expectations. Some patients complained that they were asked the same questions over and over again. Some of the patients responded to the similarity in items measuring ideal expectations and expectations by leaving entire sections of the first questionnaire incomplete.

Accordingly, the first questionnaire was modified during data collection. Two different versions of the first questionnaire were distributed. The modified versions of the questionnaire contained measurements for either ideal expectations or expectations, but not both. Of the 131 respondents, 57 received the original questionnaire containing measurements for both ideal expectations and expectations, 32 received a version of the modified questionnaire containing measurements for expectations, and 42 received a version of the modified questionnaire containing measurements for ideal expectations.

Although modifying the first questionnaire helped solve some of the data collection problems, it also created an analysis problem. The calculation of

maximum likelihood estimates assumes a listwise covariance matrix. In this case, the use of listwise matrices would result in an exceedingly small sample size (N = 57). An alternative to using listwise matrices is to use pairwise matrices whereby each covariance is based on only cases which have complete information for that particular pair of variables rather than for all the variables on the list. Hayduk (1987) suggests that

> the use of pairwise matrices in LISREL should be avoided but not blindly condemned. We must weigh the relative costs of violating the assumption of a listwise matrix against the cost of using an unrealistic listwise matrix....We [Entwisle and Hayduk 1982] have encountered situations in which a longitudinal data collection procedure was combined with shifts in data collection strategies in ways such that few cases had full information on all of the variables of interest but where we nonetheless felt comfortable depending on pairwise matrices (Hayduk 1987, p. 327).

Hayduk (1987) refers to a data collection situation which is very similar to the situation found in this dissertation research: a longitudinal data collection was combined with a shift in collection strategies resulting in very few cases with full information. It was felt that using pairwise matrices was preferable over using unrealistic listwise matrices. However, the researcher did adhere to a number of recommendations put forth by Hayduk (1987): 1) the n entered into the LISREL program was the minimum n for any covariance in the pairwise matrix, 2) the final model was rerun using the listwise matrix, and 3) the estimates and output were viewed tentatively. Hayduk (1987) contends that entering the minimum N may be overly conservative if almost all of the covariances in the matrix are calculated on larger N's. In this research a compromise was sought, both the factor and structural models were estimated with the minimum n (n = 55) and maximum n (n = 131)

entered into the program. With the exception of the chi-square statistic, there were no differences in parameter estimates or fit statistics as a result of the different sample sizes. The chi-square values for both sample sizes are reported in the tables contained in this chapter. The models were also rerun using listwise matrices. The patterns of significant relationships were similar whether pairwise or listwise matrices were used.

Evaluation of the Factor and Structural Equation Models

As outlined in Chapter Three, several indicators were used to evaluate the adequacy of the factor models. First, results were examined for abnormalities such as negative error variances, correlations greater than one, and extremely large parameter estimates. Second, global measures of fit were examined. As specified earlier in Chapter Three, the following evaluative criteria have been suggested in the literature and were used in this research: 1) a nonsignificant chi-square statistic (p-value $>$ .05), 2) satisfactory goodness of fit indices (GFI and AGFI between .8 and .9), 3) a low root mean square residual (RMSR between .03 and .09), and 4) a satisfactory normed fit index (NFI $>$ .9).

After examining global measures of fit, internal structure was assessed by examining measurement equations and their respective reliabilities. Based on the suggestions of Bagozzi and Yi (1988, p.82), the following were used as evaluative criteria for the measurement models: 1) high individual item reliabilities (greater than .5); 2) high composite reliabilities (greater than .6); 3) average variance extracted greater than .5; and 4) normalized residuals less than 2. These four

criteria, along with the measures of overall model fit, give an indication of the unidimensionality and internal consistency of the scales.

Consideration was given to eliminating individual indicators that appeared to be detracting from the unidimensionality of the scales. Individual items were considered for elimination if they exhibited low individual item reliabilities (less than .5) and/or if they corresponded to standardized residuals of a magnitude greater than 2 which would suggest that the item(s) were detracting from the unidimensionality of the scales. Once the researcher felt confident in the internal consistency of the scales, composite measures for each of the constructs were calculated by summing individual indicators. Composite reliabilities were then calculated as per the procedure discussed in Chapter Three. Measurement error variances were fixed at one minus the composite reliabilities for the structural models.

In assessing the adequacy of the structural models, the following were used as criteria: 1) global measures of fit as previously discussed and 2) significant parameter estimates confirming hypotheses. Since models with few degrees of freedom will have high values of GFI, AGFI, AND NFI and low chi-square values, more appropriate criteria for model acceptability include significant parameter estimates confirming the hypotheses and explained variance for the endogeneous constructs, particularly satisfaction.

In review, the following hypotheses were tested:

H1: Perceived performance is negatively influenced by ideal expectations.

H2: Perceived performance is positively influenced by expectations.

H3: Disconfirmation is positively influenced by perceived performance.

H4: Satisfaction is positively influenced by expectations.

H5: Satisfaction is positively influenced by perceived performance.

H6: Satisfaction is positively influenced by disconfirmation.

The hypotheses were tested separately for each submodel and then for an overall model of patient satisfaction.

Patient Satisfaction Submodel

Factor Model

The patient satisfaction submodel consists of five constructs: ideal expectations, expectations, performance, disconfirmation and satisfaction. All of these constructs were measured with respect to the patients' perceptions of their own role in the service encounter. Confirmatory factor analysis (CFA) was performed on the five summed scales which constitute the patient satisfaction submodel measures. Results of the individual item analysis (reflected by the standardized residuals and individual reliabilities) suggested that a number of items would improve the scales if eliminated. The specific items considered for deletion included: items 7, 8 ,9, and 10 for ideal expectations, items 7, 8, 9, and 10 for expectations, items 2 and 9 for performance, and items 4, 7, 8, 9, and 10 for disconfirmation (See Appendix A: Dissertation Questionnaires). To assess the impact of eliminating these items, CFA was rerun after these items were deleted. The factor model (CFA) tested for the revised scales showed improvement over the original model. Eliminating these items produced higher item and composite

reliabilities and fewer standardized residuals greater than 2.

The revised factor model (CFA) for the patient satisfaction submodel exhibited a goodness of fit (GFI) value of .70 and an adjusted goodness of fit (AGFI) value of .65. Both of these fall short of the previously stated criterion. However, the chi-square value was statistically nonsignificant which suggests a reasonable fit of the proposed factor model. The root mean square residual statistic of .06 was within acceptable ranges and the normed fit index of .8 was close to the criterion of .9.

The item reliabilities and factor loadings from the CFA for the 5 scales are presented in Table 4.3. Construct reliabilities were calculated following the procedure outlined by Fornell and Larcker (1981). This procedure was discussed in Chapter Three. The construct reliabilities are also contained in Table 4.3. In addition, the global measures of fit for the patient satisfaction factor model are presented.

Table 4.3
Patient Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Ideal Expectations			
I think I should:			
1.	Ask the doctor to explain more clearly what I am suppose to do.	.955	.977
2.	Ask the doctor what I need to know about my condition.	.984	.992
3.	Ask the doctor for all the information s/he has regarding my condition.	.956	.978
4.	Find out as much as possible about my problem.	.931	.965
5.	Discuss alternative treatment plans with the doctor.	.843	.918
6.	Tell the doctor how I would like things done.	.764	.874
Composite Reliability = .98			
Average Variance Extracted = .91			

Table 4.3 continued
Patient Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Expectations			
How likely is it that you will:			
1.	Ask the doctor for all the information s/he has regarding my condition.	.956	.978
2.	Ask the doctor what I need to know about my condition.	.980	.990
3.	Find out as much as possible about my problem.	.978	.989
4.	Ask the doctor about any complications that s/he may anticipate.	.941	.970
5.	Discuss alternative treatment plans with the doctor and then choose the one I am most comfortable with.	.945	.972
6.	Indicate to the doctor how I would like things done.	.914	.956
Composite Reliability = .99			
Average Variance Extracted = .95			

Table 4.3 continued
Patient Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Performance			
During my visit to the Bone and Joint Clinic, I:			
1.	Discussed a number of alternative treatment plans with the doctor and then I choose the one I preferred.	.561	.749
3.	Asked the doctor to explain more clearly what I was supposed to do.	.247	.497
4.	Told the doctor how I would like things done.	.433	.658
5.	Questioned the doctor as to what I should and should not be doing.	.331	.575
6.	Asked the doctor to repeat his instructions to me.	.508	.713
7.	Decided with the doctor what was the most appropriate treatment.	.587	.766
8.	Asked the doctor for more detailed instructions.	.554	.744
Composite Reliability = .85			
Average Variance Extracted = .46			

Table 4.3 continued
Patient Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Disconfirmation			
How did you behave in comparison to how you expected to behave during your clinic visit?			
1.	My asking the doctor what I needed to know about my problem and treatment.	.908	.953
2.	My finding out as much as possible about my condition.	.828	.910
3.	My asking the doctor to explain more clearly what I was suppose to do.	.750	.866
5.	My repeating the doctor's instructions back to him/her.	.308	.555
6.	My asking the doctor for all the information s/he had regarding my condition.	.472	.687
Composite Reliability = .90			
Average Variance Extracted = .65			

Table 4.3 continued
Patient Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Satisfaction			
How satisfied are you with:			
1.	The degree to which you asked the doctor to explain something you did not understand.	.599	.774
2.	The amount of information that you told the doctor.	.271	.521
3.	The extent to which you asked questions during your clinic visit.	.728	.853
4.	The extent to which you expressed your concerns.	.799	.894
5.	The extent to which you discussed alternative treatment plans with your doctor.	.496	.704
6.	Your ability to express your feelings.	.773	.879
7.	The extent to which you helped your doctor decide on an appropriate treatment plan.	.728	.853
8.	The degree to which you stated your preferences.	.598	.773
Composite Reliability = .93			
Average Variance Extracted = .62			

Table 4.3 continued
Patient Satisfaction Submodel:
Lisrel Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Goodness-of-fit index = .699
Adjusted goodness-of-fit index = .650
Root mean square residual = .056
Normed fit index = .844
Chi-square = 347.71 (n=55, DF=454, P < 1.00)
Chi-square = 904.04 (n=131, DF=454, P < .000)

The individual reliabilities in Table 4.3 suggest that most items appear to be good indicators for the measured constructs. The majority (over 80%) of the individual item reliabilities were above .50. Furthermore, the construct reliabilities ranged from 0.85 to 0.99. These composite reliabilities were well above the criterion of 0.60. Several of the various measures of fit were acceptable and there were no standardized residuals greater than 2. The results of the CFA suggest that the scales for the patient submodel possess good internal consistency as indicated by the high composite reliabilities. The absence of standardized residuals greater than 2 suggests that the measures also possess good unidimensionality. The items appear to be reliable measures of ideal expectations, expectations, performance, disconfirmation, and satisfaction for the patient's role.

Discriminant Validity

Since diversely different methods of measurement were not available for all constructs, multi-trait, multi-method analysis could not be applied to assess convergent validity. However, discriminant validity of the measures could be

assessed by examining correlations between measures of different constructs using the same method of measurement (heterotrait-monomethod coefficients) and correlations between measures of the same construct using the same method of measurement (reliability coefficients). Evidence of discriminant validity is found when the validity coefficients are lower than the reliability coefficients (Crocker and Algina 1986).

For the patient, items measuring ideal expectations and expectations appear to have reasonable reliability and discriminant validity. With the exception of a few items, the intraconstruct correlations coefficients were higher than the interconstruct correlations coefficients for ideal expectations and expectations. A visual inspection of the correlations suggests that items measuring disconfirmation and satisfaction also appear to have good reliability and discriminant validity. The intraconstruct correlation coefficients for these measures were significant and generally higher than the interconstruct correlation coefficients. The discriminant validity of the performance measures for the patient submodel is suspect. For the most part, the intraconstruct correlation coefficients were weak and quite a few interconstruct correlation coefficients were higher than the intraconstruct correlation coefficients. This suggests that items measuring performance may not be distinct from items measuring other constructs in the model. Although the analyses reported here tests the model with performance included as hypothesized, the results were viewed tentatively. The validity of the performance measures for the patient submodel will be further discussed in Chapter Five.

Structural Equation Model

The hypothesized structural relationships for the patient satisfaction submodel are shown in Figure 4.1. Figure 4.2 shows the significant parameter estimates for the patient satisfaction submodel. The standardized parameter estimates and measures of overall model fit for the patient satisfaction submodel are also presented in Table 4.4. The chi-square statistic was nonsignificant (chi-square = 1.85, degrees of freedom = 3, $p < .603$). Other fit indices were within acceptable ranges (GFI = .99, AGFI = .93, RMSR = .04, NFI = .98). The fit statistics for the patient satisfaction structural model indicate that the proposed model fits the data relatively well.

From Figure 4.2 and the information provided in Table 4.4, we can see that three of the six hypotheses were supported for the patient satisfaction submodel. It was predicted that perceived performance would be positively influenced by expectations (H2). A significant standardized parameter estimate for the performance and expectations relationship supports this hypothesis. It was predicted that disconfirmation would be positively influenced by perceived performance (H3). This hypothesis was supported for the patient satisfaction submodel. It was predicted that satisfaction would be positively influenced by expectations (H4), performance (H5), and disconfirmation (H6). For this submodel, satisfaction was found to be significantly influenced by disconfirmation only. Thus, support was found for hypothesis 6 but not for hypothesis 4 and 5. In addition, support was not found for the prediction that ideal expectations would exert a negative influence on

performance (H1). In summary, partial support was found for the proposed patient satisfaction submodel.

Table 4.4

Standardized Structural Parameter Estimates
and T-Values
for Proposed Patient Satisfaction Submodel

Proposed Relationships From ----- To		Parameters (T-Values)
H1:	Ideal expectations ----- Performance	.050 (0.32)
H2:	Expectations ----- Performance	.570* (3.65)
H3:	Performance ----- Disconfirmation	.532* (3.71)
H4:	Expectations ----- Satisfaction	.029 (0.19)
H5:	Performance ----- Satisfaction	.203 (1.07)
H6:	Disconfirmation ----- Satisfaction	.521* (3.44)

Model Fit

Chi-square	1.85 (n=55, DF=3, Prob < .603)
Chi-square	4.82 (n=131, DF=3, Prob < .186)
GFI	.99
AGFI	.93
RMSR	.04
NFI	.98
Structural Equations (R^2)	
Performance	.36
Disconfirmation	.28
Satisfaction	.44

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.1
Patient Submodel:
Hypothesized Relationships

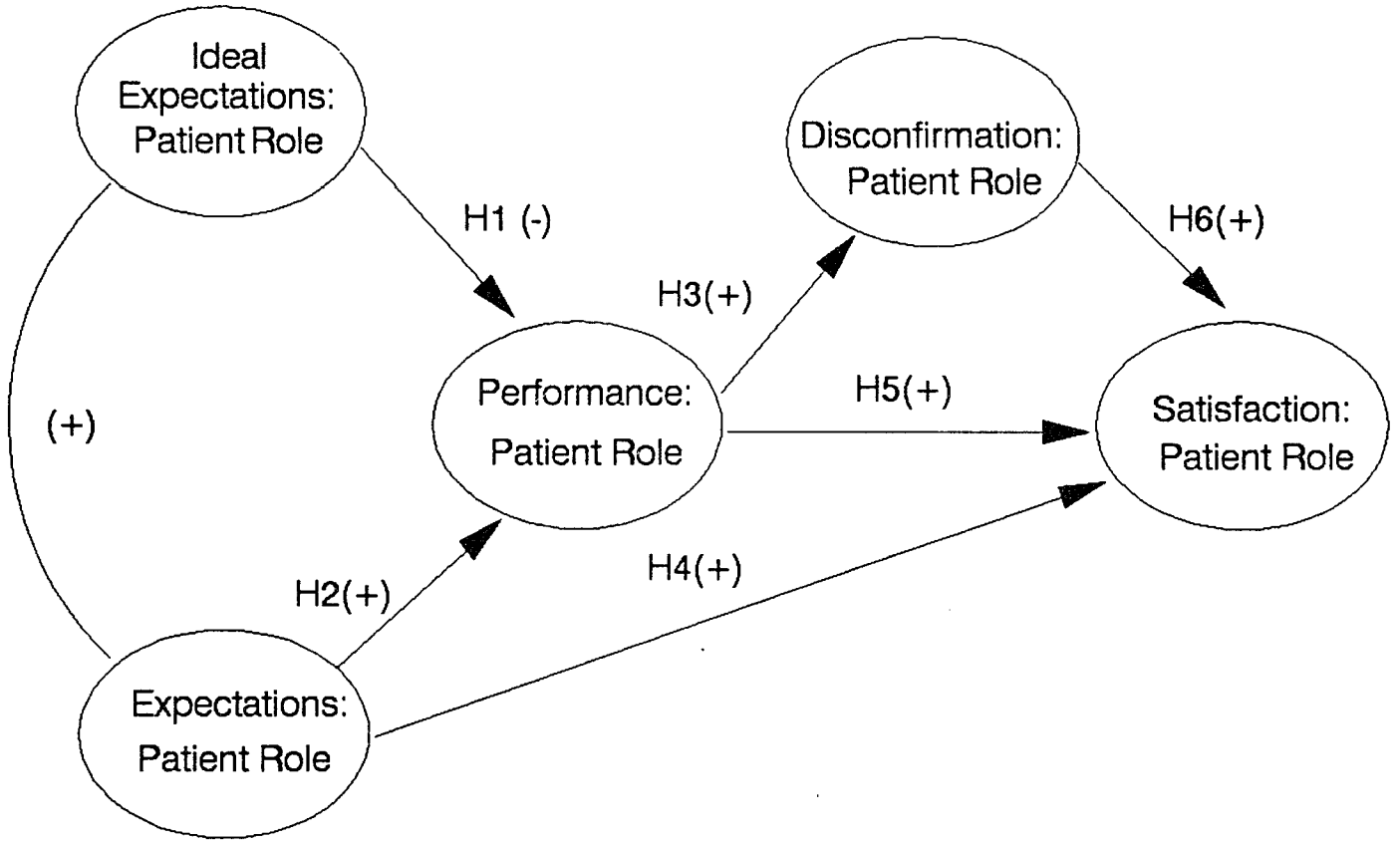
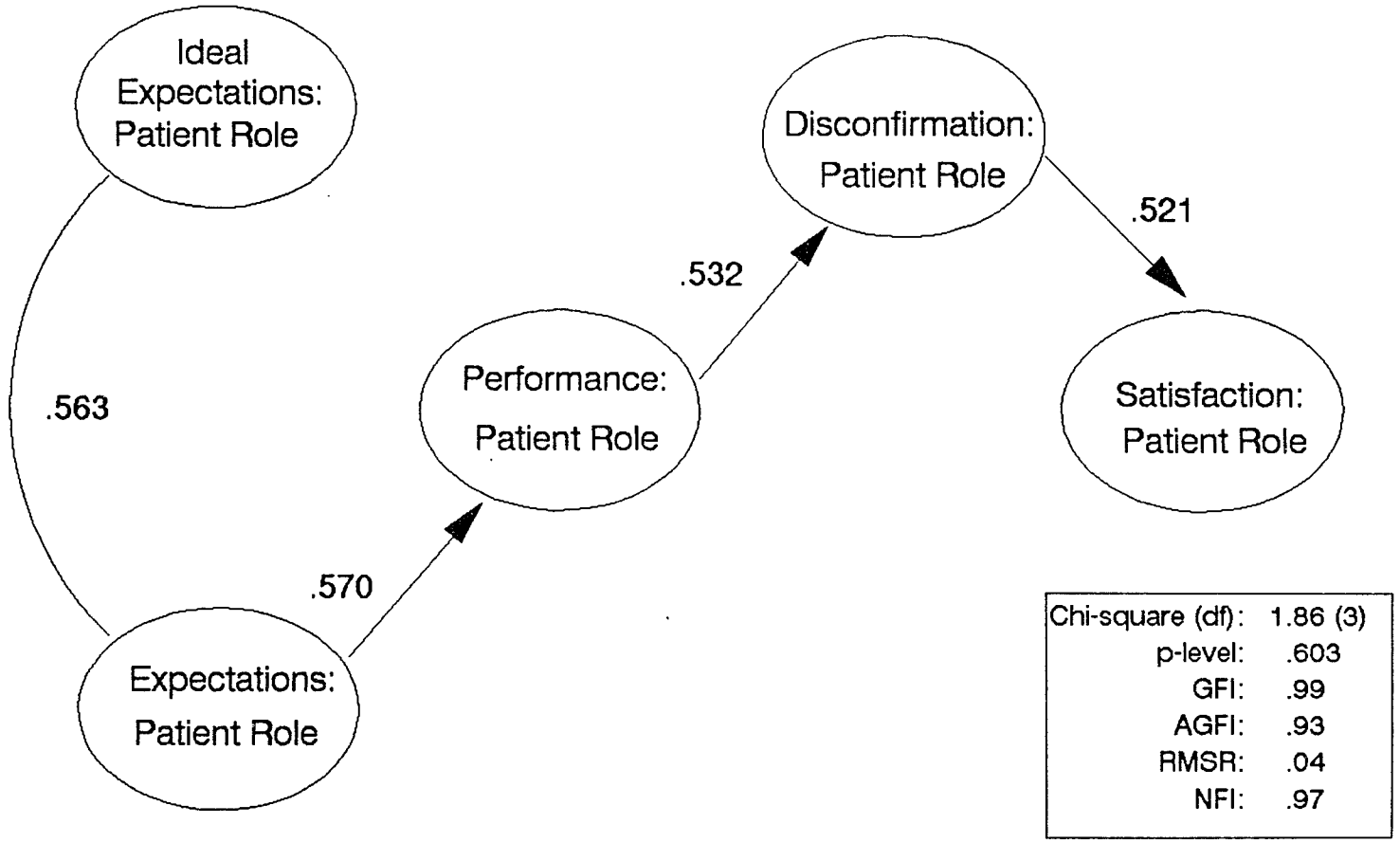


FIGURE 4.2
Patient Submodel:
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES



Doctor Satisfaction Submodel

Factor Model

As with the patient satisfaction submodel, the doctor satisfaction submodel consisted of five constructs: ideal expectations, expectations, performance, disconfirmation and satisfaction. All of these constructs were measured with respect to the patients' perceptions of the doctor's role in the service encounter. Once again, confirmatory factor analysis (CFA) was performed on the five summed scales which constitute the doctor satisfaction submodel measures.

Results of the individual item analysis (reflected by the standardized residuals and individual reliabilities) suggested that a number of items would improve the scales if eliminated. The specific items considered for deletion included: items 4 and 6 for performance, item 7 for disconfirmation, and items 4 and 6 for satisfaction (See Appendix A: Dissertation Questionnaires). To assess the impact of eliminating these items, CFA was rerun after these items were deleted. The factor model (CFA) tested for the revised scales showed improvement over the original model: reliabilities were increased and standardized residuals decreased.

The revised factor model (CFA) for the doctor satisfaction submodel exhibited a goodness of fit (GFI) value of .60 and an adjusted goodness of fit (AGFI) value of .57. These are both short of the previously stated criterion. However, the chi-square value was nonsignificant which suggests a reasonable fit of the proposed factor model. The root mean square residual statistic of .05 was acceptable. A normed fit index of .82 was close to the prespecified criterion of .9.

The item reliabilities and factor loadings from the CFA for the 5 scales are presented in Table 4.5. Construct reliabilities and global measures of fit for the doctor satisfaction factor model are also contained in Table 4.5.

Table 4.5
Doctor Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Ideal Expectations			
I think the doctor should:			
1.	Help me put into words the kind of medical help that I want.	.865	.930
2.	Discuss any concerns I may have about my problem.	.976	.988
3.	Be empathetic with my particular situation.	.867	.931
4.	Explain what s/he is going to do.	.960	.980
5.	Give me his/her full attention when I see him/her.	.976	.988
6.	Give me a chance to voice my concerns.	.958	.979
7.	Be comforting and reassuring.	.935	.967
8.	Tell me to call him/her if I have any questions.	.949	.974
9.	Treat me with respect.	.976	.988
10.	Be better trained than the average doctor.	.874	.935
11.	Ask me if I have any questions.	.958	.979
12.	Keep up with the latest medical discoveries.	.859	.927
13.	Be careful.	.904	.951

Composite Reliability = .99
Average Variance Extracted = .93

Table 4.5 continued
Doctor Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Expectations			
How likely is it that the doctor will:			
1.	Help me put into words the kind of medical help that I want.	.927	.963
2.	Be better trained than the average doctor.	.941	.970
3.	Ask me if I have any questions.	.951	.975
4.	Keep up with the latest medical discoveries.	.956	.978
5.	Be careful.	.976	.988
6.	Discuss any concerns I may have about my problem.	.970	.985
7.	Be empathetic with my particular situation.	.964	.982
8.	Explain what s/he is going to do.	.949	.974
9.	Give me his/her full attention when I see him/her.	.980	.990
10.	Give me a chance to voice my concerns.	.978	.989
11.	Be comforting and reassuring.	.970	.985
12.	Tell me to call him/her if I have any questions.	.967	.973
13.	Treat me with respect.	.974	.987

Composite Reliability = .99
Average Variance Extracted = .96

Table 4.5 continued
Doctor Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Performance			
During my visit to the Bone and Joint clinic, the doctor:			
1.	Appeared better trained than the average doctor.	.732	.856
2.	Explained what s/he was going to do.	.796	.892
3.	Treated me with respect.	.590	.768
5.	Was careful to explain why s/he was doing certain things.	.594	.771
7.	Listened to me.	.602	.776
8.	Appeared competent.	.750	.866
9.	Seemed very thorough.	.759	.871
Composite Reliability = .94			
Average Variance Extracted = .69			

Table 4.5 continued
Doctor Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Disconfirmation			
How did the doctor behave in comparison to how you expected him to behave during the clinic visit?			
1.	The doctor's helpfulness in helping me put into words the kind of medical help that I wanted.	.616	.785
2.	The doctor's willingness to discuss my concerns.	.834	.913
3.	The amount of empathy shown to me by the doctor.	.780	.883
4.	The doctor's explanation of what s/he was going to do.	.812	.901
5.	The doctor's reassurance.	.716	.846
6.	The doctor's assurance that it was alright to call.	.632	.795
8.	The amount of attention shown to me by the doctor.	.826	.909
9.	The degree to which the doctor keeps up with the latest medical discoveries.	.490	.700
10.	The doctor's carefulness.	.716	.846
11.	The doctor's show of respect for me.	.731	.855
12.	The doctor's giving me a chance to voice my concerns.	.677	.823

Composite Reliability = .96
Average Variance Extracted = .72

Table 4.5 continued
Doctor Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Satisfaction			
How satisfied are you with:			
1.	The amount of personal attention you received from the doctor.	.728	.853
2.	The amount of time the doctor spent with you.	.691	.831
3.	The doctor's diagnosis and treatment plan.	.524	.724
5.	The amount of attention given to you by doctor.	.776	.881
7.	The doctor's consideration of you as a person.	.679	.824
8.	The degree to which the doctor answered all your questions.	.792	.890
9.	The information provided to you by the doctor.	.532	.730
10.	The doctor's knowledge of your problem.	.540	.735
11.	The doctor's carefulness.	.680	.825
12.	The extent to which the doctor listened to you.	.340	.583
13.	The doctor's treatment of you.	.627	.792
Composite Reliability = .95			
Average Variance Extracted = .63			

Table 4.5 continued
Doctor Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Goodness-of-fit index = .600
Adjusted goodness-of-fit index = .566
Root mean square residual = .047
Normed fit index = .822
Chi-square = 1024.70 (n=55, DF=420, P < 1.00)
Chi-square = 2664.21 (n=131, DF=420, P < .000)

As is evident from the individual reliabilities in Table 4.5, most items appear to be good indicators for the measured constructs. With the exception of two items (item 9 for disconfirmation and item 12 for satisfaction), the individual item reliabilities were above .50. Furthermore, the composite reliabilities ranged from 0.94 to 0.99. These composite reliabilities were well above the criterion of 0.60. Although several of the fit indices did not meet the prespecified criteria, there were no standardized residuals greater than 2 which suggest that the measures are unidimensional. The items appear to be reliable measures of ideal expectations, expectations, performance, disconfirmation, and satisfaction for the doctor's role.

Discriminant Validity

As with the patient submodel, the discriminant validity of the doctor submodel measures was assessed by comparing the heterotrait-monomethod coefficients with the reliability coefficients. The measures for ideal expectations, expectations, disconfirmation, and satisfaction for the doctor submodel appear to have good discriminant validity. With the exception of a few items, the

intraconstruct correlations coefficients were higher than the interconstruct correlations coefficients for these constructs. Most of the items measuring performance were significantly correlated with items measuring other constructs, in particular expectations, disconfirmation, and satisfaction. Some of the intraconstruct correlation coefficients for the performance construct were smaller than the interconstruct correlation coefficients. The hypotheses for the doctor submodel were tested with performance included in the model. However, the results of the hypotheses tests were evaluated with the lack of evidence for the validity of the performance measure in mind. This will be discussed in further detail in Chapter Five.

Structural Equation Model

The hypothesized relationships for the doctor satisfaction submodel are shown in Figure 4.3. The significant relationships are also shown in Figure 4.4. The standardized parameter estimates and measures of overall model fit for the doctor satisfaction submodel are presented in Table 4.6. The chi-square statistic was nonsignificant (chi-square = 5.66, degrees of freedom = 3, $p < .129$). With the exception of the AGFI, other fit indices were within acceptable ranges (GFI = .958, AGFI = .789, RMSR = .045, NFI = .955). The fit statistics for the doctor satisfaction structural model indicate that the proposed model fits the data relatively well.

From the information provided in Figure 4.4 and Table 4.6, we can see that three of the six hypotheses were supported for the doctor satisfaction submodel:

perceived performance was positively influenced by expectations (H2), disconfirmation was positively influenced by performance (H3), and satisfaction was positively influenced by performance (H5). It was predicted that performance would be negatively influenced by ideal expectations (H1). Ideal expectations did not exert a significant influence on performance. Satisfaction was not found to be significantly influenced by expectations or disconfirmation. Therefore, no support was found for H3, H4 or H6 for the doctor satisfaction submodel.

Table 4.6

Standardized Structural Parameter Estimates
and T-Values
for Proposed Doctor Satisfaction Submodel

Proposed Relationships From ----- To		Parameters (T-Values)
H1:	Ideal expectations ----- Performance	.252 (2.03)
H2:	Expectations ----- Performance	.502* (4.04)
H3:	Performance ----- Disconfirmation	.758** (7.32)
H4:	Expectations ----- Satisfaction	.000 (0.01)
H5:	Performance ----- Satisfaction	.631* (3.87)
H6:	Disconfirmation ----- Satisfaction	.258 (1.80)

Model Fit

Chi-square	5.66 (n=55, DF=3, Prob < .129)
Chi-square	14.72 (n=131, DF=3, Prob < .002)
GFI	.958
AGFI	.789
RMSR	.045
NFI	.955
Structural Equations (R^2)	
Performance	.415
Disconfirmation	.576
Satisfaction	.712

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.3
Doctor Submodel:
Hypothesized Relationships

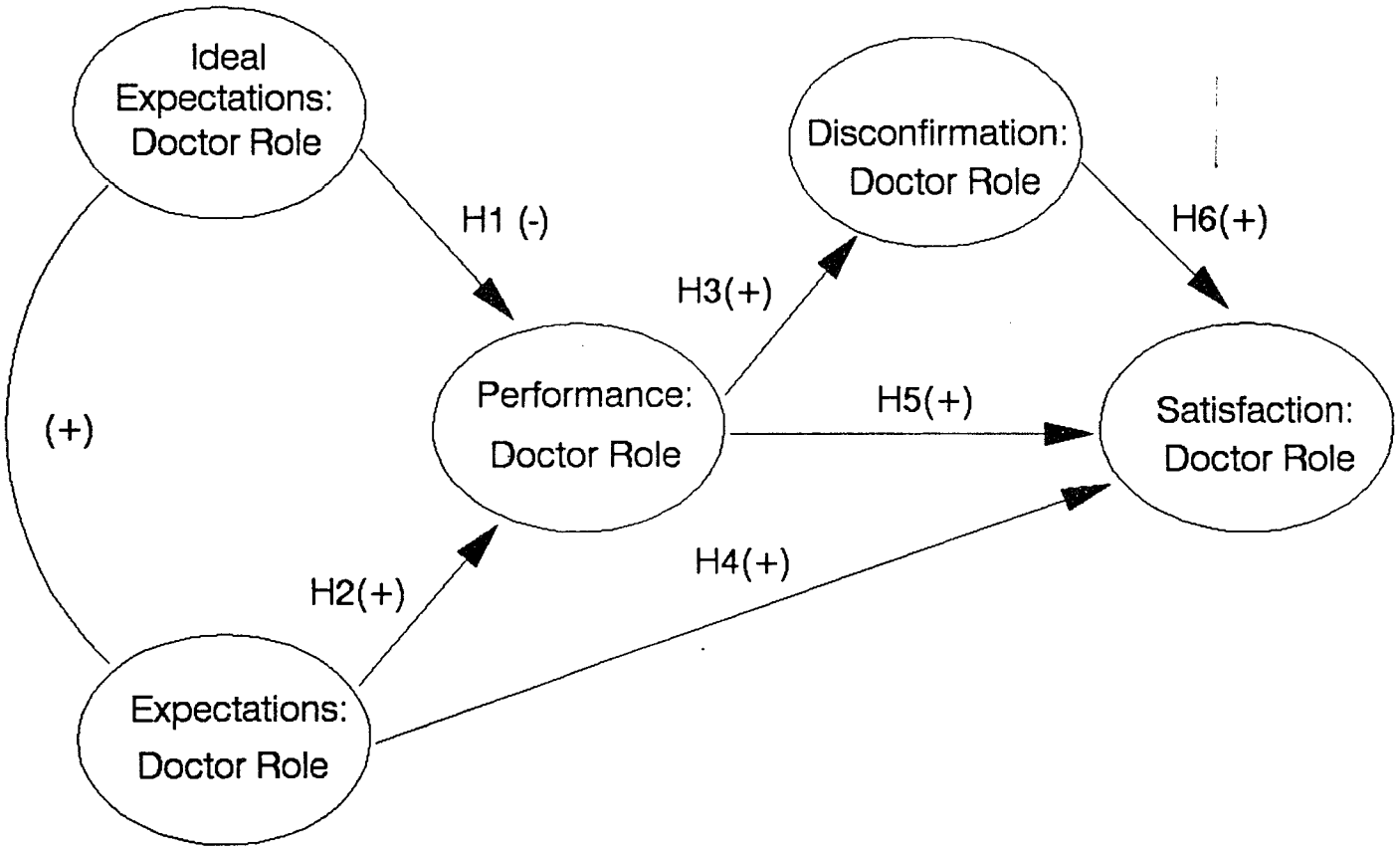
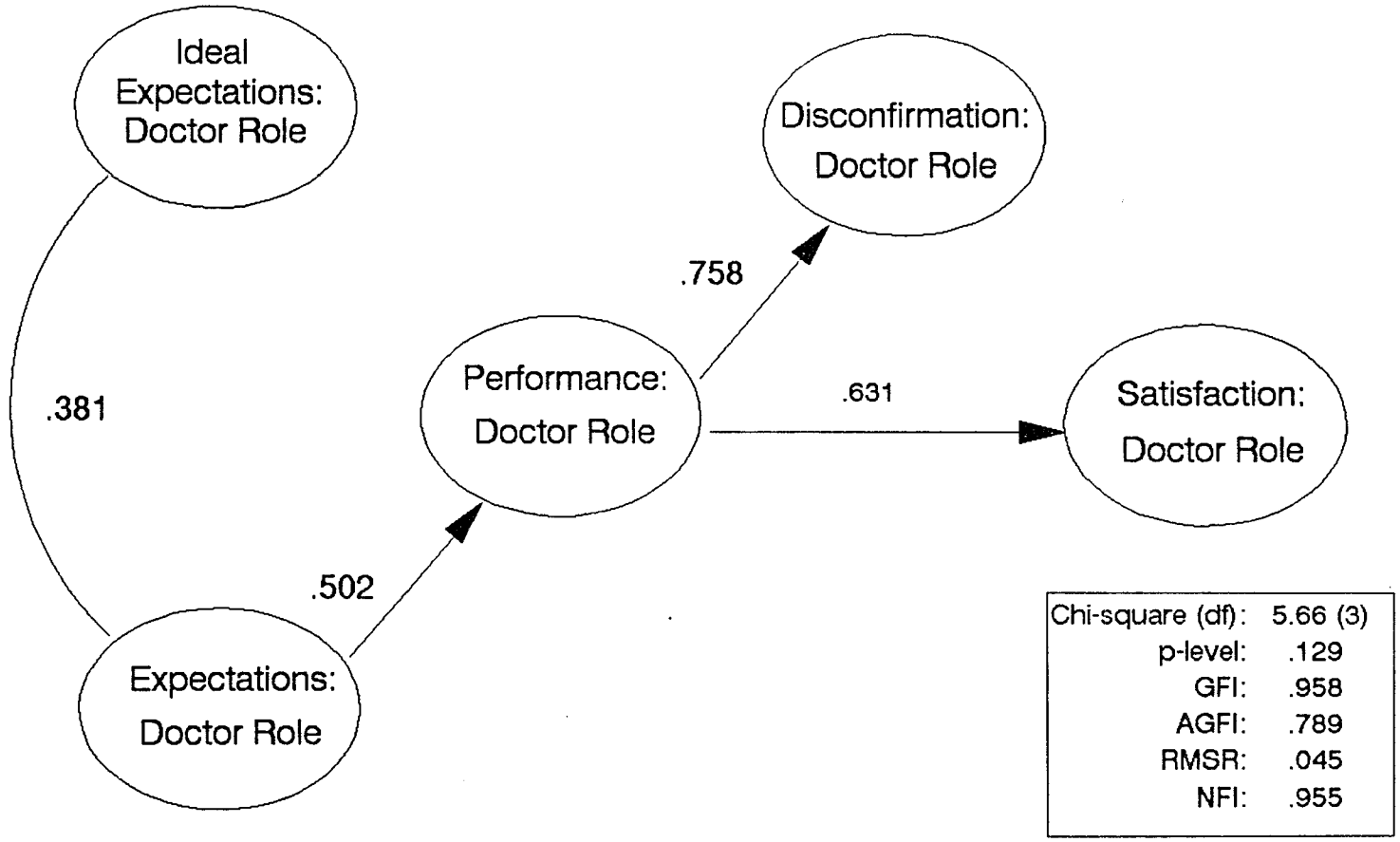


FIGURE 4.4

Doctor Submodel:

SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES



Staff Satisfaction Submodel

Factor Model

The five constructs of the staff satisfaction submodel (ideal expectations, expectations, performance, disconfirmation and satisfaction) were measured with respect to the patients' perceptions of the staff's role in the service encounter. Once again, confirmatory factor analysis (CFA) was performed on the five summed scales which constitute the staff satisfaction submodel measures.

Results of the individual item analysis (reflected by the standardized residuals and individual reliabilities) suggested that a number of items would improve the scales if eliminated. The specific items considered for deletion included: items 2, 10, and 14 for ideal expectations, items 12 and 19 for performance, items 1, 4 and 11 for disconfirmation, and item 12 for satisfaction (See Appendix A: Dissertation Questionnaires). To assess the impact of eliminating these items, CFA was rerun after these items were deleted. The factor model (CFA) tested for the revised scales showed improvement over the original model (higher reliabilities and fewer standardized residuals greater than 2).

The revised factor model (CFA) for the staff satisfaction submodel exhibited a goodness of fit (GFI) value of .557 and an adjusted goodness of fit (AGFI) value of .444. These values fall short of the previously stated criterion, the goodness of fit value was within acceptable ranges. The chi-square value was statistically significant which suggests that the fit of the proposed factor model could be improved. The root mean square residual of .112 and the normed fit index of .66

both fall short of the criteria specified for these indices.

The item reliabilities and factor loadings from the CFA for the 5 scales are presented in Table 4.7. Construct reliabilities and global measures of fit for the staff satisfaction factor model are also contained in Table 4.7.

Table 4.7
Staff Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Ideal Expectations			
I think the clinic should have:			
3.	X-ray and cast technicians that are friendly and caring.	.924	.961
8.	Receptionists and cashiers that treat me as an individual.	.780	.883
15.	A clinic staff that is interested in serving me.	.885	.941
19.	Xray and cast technicians that treat me as an individual.	.823	.907

Composite Reliability = .96
Average Variance Extracted = .85

Table 4.7 continued
Staff Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Expectations			
How likely is it that the clinic will have:			
2.	Doctor's nurses that are friendly and caring.	.814	.902
5.	Receptionists and cashiers that are friendly and caring.	.893	.945
9.	Xray and cast technicians that treat me like an individual.	.666	.816
12.	A clinic staff that is interested in serving me.	.861	.928
13.	Receptionists and cashiers that treat me as an individual.	.935	.967
18.	Doctor's nurses that treat me as an individual.	.723	.850
20.	Xray and cast technicians that are friendly and caring.	.790	.889
Composite Reliability = .97 Average Variance Extracted = .81			

Table 4.7 continued
Staff Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Performance			
During my visit to the Bone and Joint clinic:			
1.	The doctor's nurses were friendly and caring.	.808	.899
7.	The receptionists and cashiers were friendly and caring.	.848	.921
9.	The clinic staff was interested in serving me.	.444	.666
11.	The x-ray and cast technicians treated me like an individual.	.734	.857
19.	The doctor's nurses treated me like an individual.	.723	.850
Composite Reliability = .92			
Average Variance Extracted = .71			

Table 4.7 continued
Staff Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Disconfirmation			
How did your experience at the clinic visit compare to your expectations?			
7.	The individualized attention given to me by the doctor's nurses.	.376	.613
12.	The clinic's filing of insurance forms.	.476	.690
13.	The individualized attention given to me by the receptionists and cashiers.	.956	.978
15.	The staff's interest in serving me.	.397	.630
17.	The friendliness of the receptionists and cashiers.	.925	.962
Composite Reliability = .89			
Average Variance Extracted = .63			

Table 4.7 continued
Staff Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Satisfaction			
How satisfied are you with:			
1.	The doctor's nurses treatment of you.	.497	.705
7.	The receptionists and cashiers treatment of you.	.545	.738

Composite Reliability = .69
Average Variance Extracted = .52

Goodness-of-fit index = .557
Adjusted goodness-of-fit index = .444
Root mean square residual = .112
Normed fit index = .663
Chi-square = 566.85 (n=55, DF=220, P < .000)
Chi-square = 1473.81 (n=131, DF=220, P < .000)

As is evident from the individual reliabilities in Table 4.7, most items appear to be good indicators for the measured constructs. With the exception of five items (item 9 for performance, items 7, 12, 15 for disconfirmation, and item 1 for satisfaction) most individual item reliabilities were above .50. The composite reliabilities ranged from 0.69 to 0.97. These composite reliabilities were above the criterion of 0.60. The global measures of fit suggest that the factor model for the staff satisfaction model could be improved. There were 10 pairs of standardized

residuals between 2 and 3 in magnitude implying the factor model could possess better internal consistency and unidimensionality. However, the number of standardized residuals greater than 2 was less than 5% of the total possible pairs. The results of the CFA suggest that the scales for the staff submodel possess reasonable internal consistency and unidimensionality. Although the items for the staff submodel appear to be moderately reliable measures of ideal expectations, expectations, performance, disconfirmation, and satisfaction for the staff's role, they are not as strong as the measures for the patient and doctor submodels.

Discriminant Validity

Similar to the patient and doctor submodels, the discriminant validity of the staff submodel measures was assessed by comparing the validity (heterotrait-monomethod) coefficients with the reliability (homotrait-monomethod) coefficients. For the staff submodel, items measuring ideal expectations, expectations, disconfirmation, and satisfaction appear to have reasonable discriminant validity. With the exception of a few items, the reliability coefficients were higher than the validity coefficients. The same can not be said for performance. In some cases, the validity coefficients were higher than the reliability coefficients. This suggests that the discriminant validity of this measure is questionable. The model will be tested as hypothesized but the results must be viewed as tentative given the lack of evidence of discriminant validity. A discussion of this finding will be presented in Chapter Five.

Structural Equation Model

The hypothesized relationships for the staff satisfaction submodel are illustrated in Figure 4.5. The significant parameter estimates are shown in Figure 4.6. The standardized parameter estimates and measures of overall model fit for the staff satisfaction submodel are presented in Table 4.8. The chi-square statistic was nonsignificant (chi-square = 2.17, degrees of freedom = 3, $p < .569$). Other fit indices were within acceptable ranges (GFI = .983, AGFI = .917, RMSR = .032, NFI = .981). The fit statistics for the staff satisfaction structural model indicate that the proposed model fits the data relatively well.

From the information provided in Table 4.8 and Figure 4.6, we can see that only two of the six hypotheses were supported for the staff satisfaction submodel: perceived performance was positively influenced by expectations (H2) and disconfirmation was positively influenced by performance (H3). Performance was not significantly influenced by ideal expectations as proposed (H1). Satisfaction was not significantly influenced by expectations (H4), performance (H5) or disconfirmation (H6) as hypothesized. Although not statistically significant, the size of the parameter estimates between performance and satisfaction (.491) and between disconfirmation and satisfaction (.401) suggest that these relationships may be worthy of future research attention. Partial support was found for the proposed staff satisfaction submodel.

Table 4.8

Standardized Structural Parameter Estimates
and T-Values
for Proposed Staff Satisfaction Submodel

Proposed Relationships From ----- To		Parameters (T-Values)
H1:	Ideal expectations ----- Performance	.073 (0.56)
H2:	Expectations ----- Performance	.595** (4.53)
H3:	Performance ----- Disconfirmation	.840** (8.19)
H4:	Expectations ----- Satisfaction	.079 (0.51)
H5:	Performance ----- Satisfaction	.491 (1.66)
H6:	Disconfirmation ----- Satisfaction	.401 (1.47)

Model Fit

Chi-square	2.17 (n=55, DF=3, Prob. < .569)
Chi-square	5.63 (n=131, DF=3, Prob. < .131)
GFI	.983
AGFI	.917
RMSR	.032
NFI	.981
Structural Equations (R^2)	
Performance	.395
Disconfirmation	.706
Satisfaction	.821

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.5
Staff Submodel:
Hypothesized Relationships

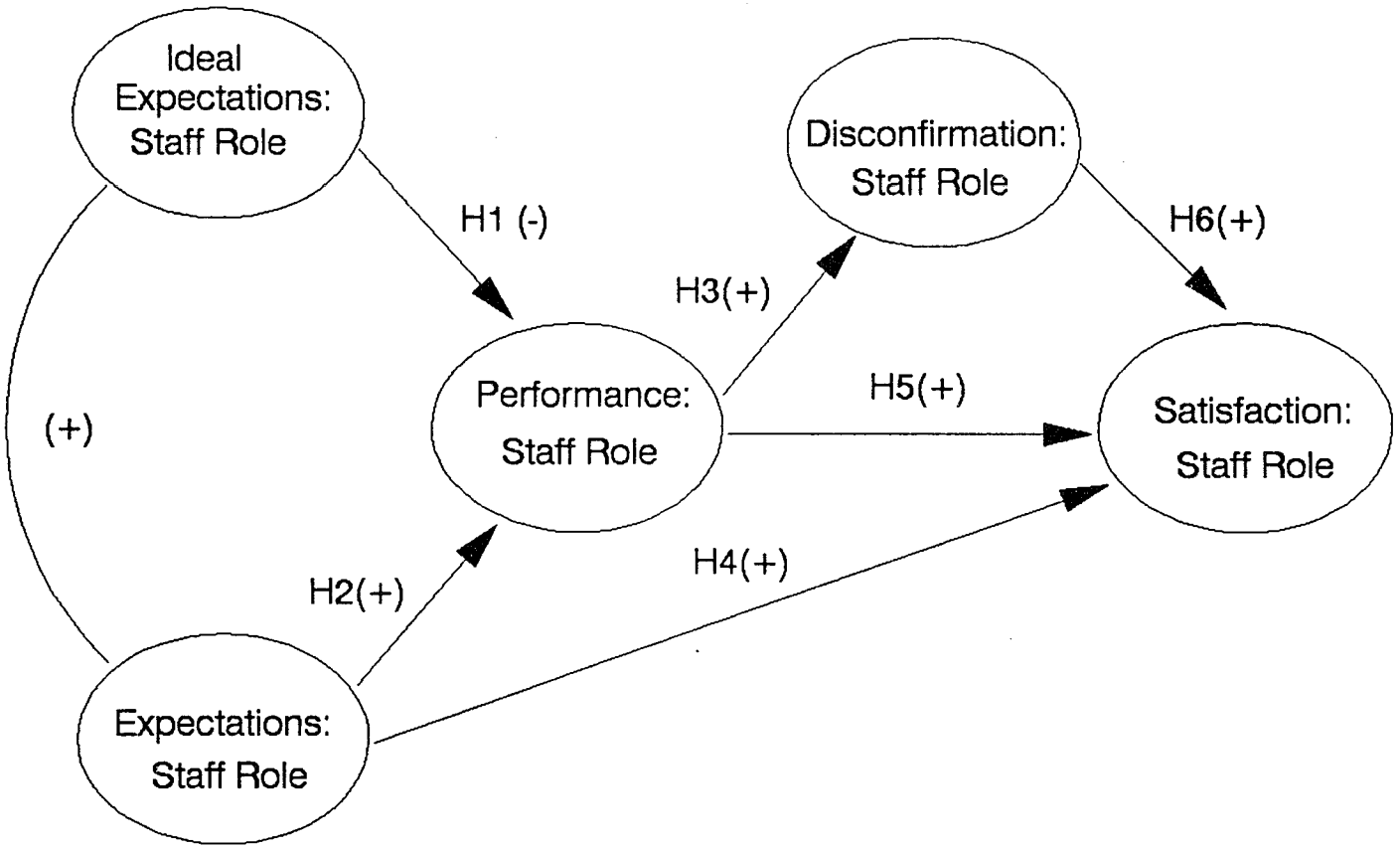
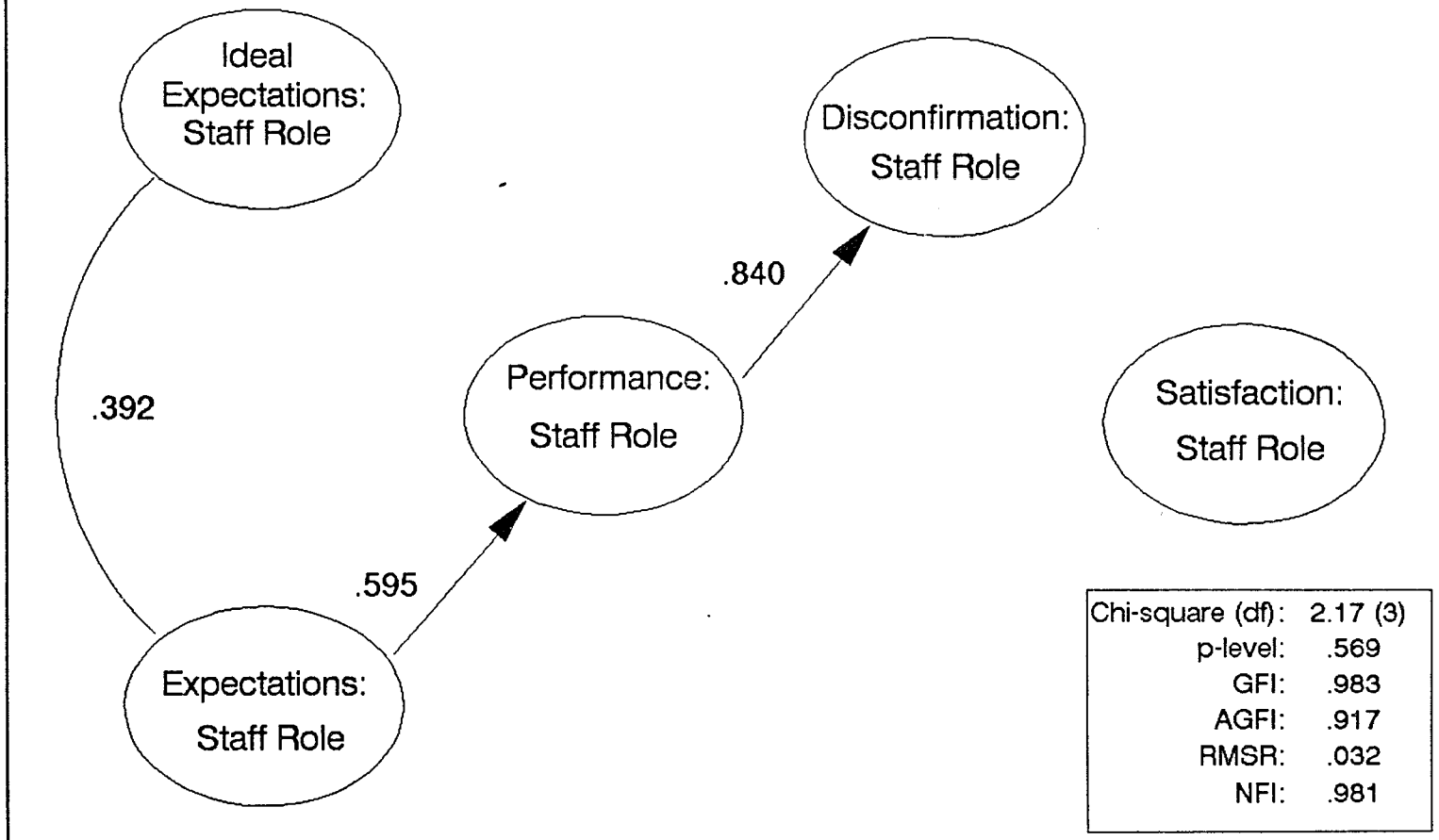


FIGURE 4.6
Staff Submodel:
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES



Access Mechanisms Satisfaction Submodel

Factor Model

As the reader may recall access mechanisms represent nonbehavioral aspects of the medical encounter or convenience factors. As with the other submodels, the five constructs of the access mechanisms satisfaction submodel (ideal expectations, expectations, performance, disconfirmation and satisfaction) were measured with respect to the patients' perceptions. Confirmatory factor analysis (CFA) was performed on the five summed scales which constitute the access mechanisms submodel measures.

Results of the individual item analysis (reflected by the standardized residuals and individual reliabilities) suggested that a number of items would improve the scales if eliminated. The specific items considered for deletion included: items 1, 5, 7, 9, 13, 16, 17, 18, and 20 for ideal expectations, items 1, 3, 4, 8, , 15, and 19 for expectations, items 2, 4, 5, 8, 10, 13, 14, 15, 17, and 20 performance, and items 5, 9, 10, 12, 14, 16, and 18 disconfirmation (See Appendix A: Dissertation Questionnaires). To assess the impact of eliminating these items, CFA was rerun after these items were deleted. The factor model (CFA) tested for the revised scales showed improvement over the original model. Eliminating these items produced higher item and composite reliabilities and fewer standardized residuals greater than 2.

The factor model (CFA) for the access mechanism submodel exhibited a goodness of fit (GFI) value of .719 and an adjusted goodness of fit (AGFI) value of

.643, both of which do not meet the prespecified criteria. The chi-square value was statistically significant which suggests that the fit of the proposed factor model could be improved. The root mean square residual of .085 was within acceptable ranges but the normed fit index of .735 fell short of the criterion (.9).

The item reliabilities and factor loadings from the CFA for the 5 scales are presented in Table 4.9. Construct reliabilities and global measures of fit for the access mechanism satisfaction factor model are also contained in Table 4.9.

Table 4.9
Access Mechanisms Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Ideal Expectations			
I think the clinic should have:			
4.	A short wait until you see the doctor.	.648	.805
6.	Appointment times that are convenient to me.	.654	.809
11.	Clinic hours that are convenient to me.	.867	.931
12.	Enough appointments available so that it is easy to get an appointment.	.805	.897
Composite Reliability = .92			
Average Variance Extracted = .74			

Table 4.9 continued
Access Mechanisms Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Expectations			
How likely is it that the clinic will have:			
6.	Appointment times that are convenient to me.	.728	.853
7.	A policy of handling the filing of insurance forms.	.500	.707
10.	Clinic hours that are convenient to my schedule.	.626	.791
11.	A comfortable waiting area.	.750	.866
14.	Parking that is convenient	.787	.887
16.	A convenient location.	.466	.683
17.	Enough appointments available so that it is easy to get an appointment.	.697	.835
Composite Reliability = .93			
Average Variance Extracted = .65			

Table 4.9 continued
Access Mechanisms Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Performance			
During my visit to the Bone and Joint clinic:			
3.	My appointment was at a time convenient to me.	.448	.669
6.	The clinic was open at times that were convenient to my schedule.	.640	.800
18.	The clinic was conveniently located.	.736	.858
Composite Reliability = .82 Average Variance Extracted = .61			
Disconfirmation			
How did your experience at the clinic compare to your expectations?			
2.	The ease of getting through to the clinic by phone.	.759	.871
3.	The ease of parking at the clinic.	.699	.836
6.	The comfort of the clinic waiting room.	.760	.872
8.	The ease of getting an appointment at the clinic.	.687	.829
Composite Reliability = .91 Average Variance Extracted = .73			

Table 4.9 continued
Access Mechanisms Satisfaction Submodel:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Satisfaction			
How satisfied are you with:			
5.	The ease of getting an appointment to see the doctor.	.567	.753
6.	The decor of the clinic.	.392	.626
8.	The convenience of your appointment time.	.654	.809
11.	The doctor's accessibility.	.623	.789

Composite Reliability = .83
Average Variance Extracted = .56

Goodness-of-fit index = .719
Adjusted goodness-of-fit index = .643
Root mean square residual = .085
Normed fit index = .735
Chi-square = 266.03 (n=55, DF=199, Prob. < .001)
Chi-square = 691.68 (n=131, DF=199, Prob. < .000)

As is evident from the individual reliabilities in Table 4.9, most items appear to be good indicators for the measured constructs. With the exception of three items (item 16 for expectations, item 3 for performance, and item 6 for satisfaction) most individual item reliabilities were above .50. The composite reliabilities ranged from 0.82 to 0.93. These composite reliabilities were above the criterion of 0.60. There were no standardized residuals greater than 2 suggesting that the measures are

unidimensional. The results of the CFA suggest that these scales appear to be fairly reliable measures of ideal expectations, expectations, performance, disconfirmation, and satisfaction for the convenience aspects of the service encounter. As with the staff submodel measures, the measures for the access mechanisms submodel are not as strong as those for the patient and doctor submodels.

Discriminant Validity

As with the other submodels, the discriminant validity of the access mechanisms measures was assessed by examining the correlations between items supposedly measuring the same construct using the same measurement method (reliability coefficients) and items supposedly measuring different constructs using the same measurement method (heterotrait-monomethod coefficients). Evidence for discriminant validity has been previously discussed.

By a visual inspection, items measuring ideal expectations, expectations, disconfirmation and satisfaction for the access mechanisms submodel appear to possess good discriminant validity. For the most part, the reliability coefficients for these measures were significant and higher than the validity coefficients. As with the other submodels, items measuring performance did not show evidence of good discriminant validity. Many of the validity coefficients were stronger than the reliability coefficients which suggests a lack of discriminant validity. Again, the hypotheses for the access mechanisms model were tested with performance included in the model. Again, the results were viewed tentatively as discussed in Chapter Five.

Structural Equation Model

The proposed relationships for the access mechanisms submodel are presented in Figure 4.7. Figure 4.8 shows the significant parameter estimates for the access mechanisms submodel. The standardized parameter estimates and measures of overall model fit for the access mechanisms satisfaction submodel are presented in Table 4.10. The chi-square statistic was nonsignificant (chi-square = 8.89, degrees of freedom = 3, $p < .031$). Several other fit indices were within acceptable ranges or in the case of the NFI very near the prespecified criterion (GFI = .935, RMSR = .065, NFI = .893). The AGFI value of .675 fell short of the stated criterion. In general, the fit statistics for the access mechanisms satisfaction structural model indicate that the proposed model fits the data relatively well.

From the information provided in Table 4.10 and Figure 4.8, we can see that only two of the six hypotheses were supported for the access mechanisms satisfaction submodel: perceived performance was positively influenced by expectations (H2) and disconfirmation was positively influenced by performance (H3). Performance was not significantly influenced by ideal expectations as proposed (H1). Satisfaction was not significantly influenced by expectations (H4), performance (H5) or disconfirmation (H6) as hypothesized. Thus, the proposed access mechanisms satisfaction submodel was only partially confirmed.

Table 4.10

Standardized Structural Parameter Estimates
and T-Values
for Proposed Access Mechanisms Satisfaction Submodel

Proposed Relationships From ----- To		Parameters (T-Values)
H1:	Ideal expectations ----- Performance	.173 (1.32)
H2:	Expectations ----- Performance	.654** (4.98)
H3:	Performance ----- Disconfirmation	.586* (4.14)
H4:	Expectations ----- Satisfaction	.352 (1.86)
H5:	Performance ----- Satisfaction	.293 (1.26)
H6:	Disconfirmation ----- Satisfaction	.261 (1.64)

Model Fit

Chi-square	8.89 (n=55, DF=3, Prob. < .031)
Chi-square	23.11 (n=131, DF=3, Prob. < .000)
GFI	.935
AGFI	.675
RMSR	.065
NFI	.893
Structural Equations (R^2)	
Performance	.526
Disconfirmation	.344
Satisfaction	.591

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.7

Access Mechanisms Submodel
Hypothesized Relationships

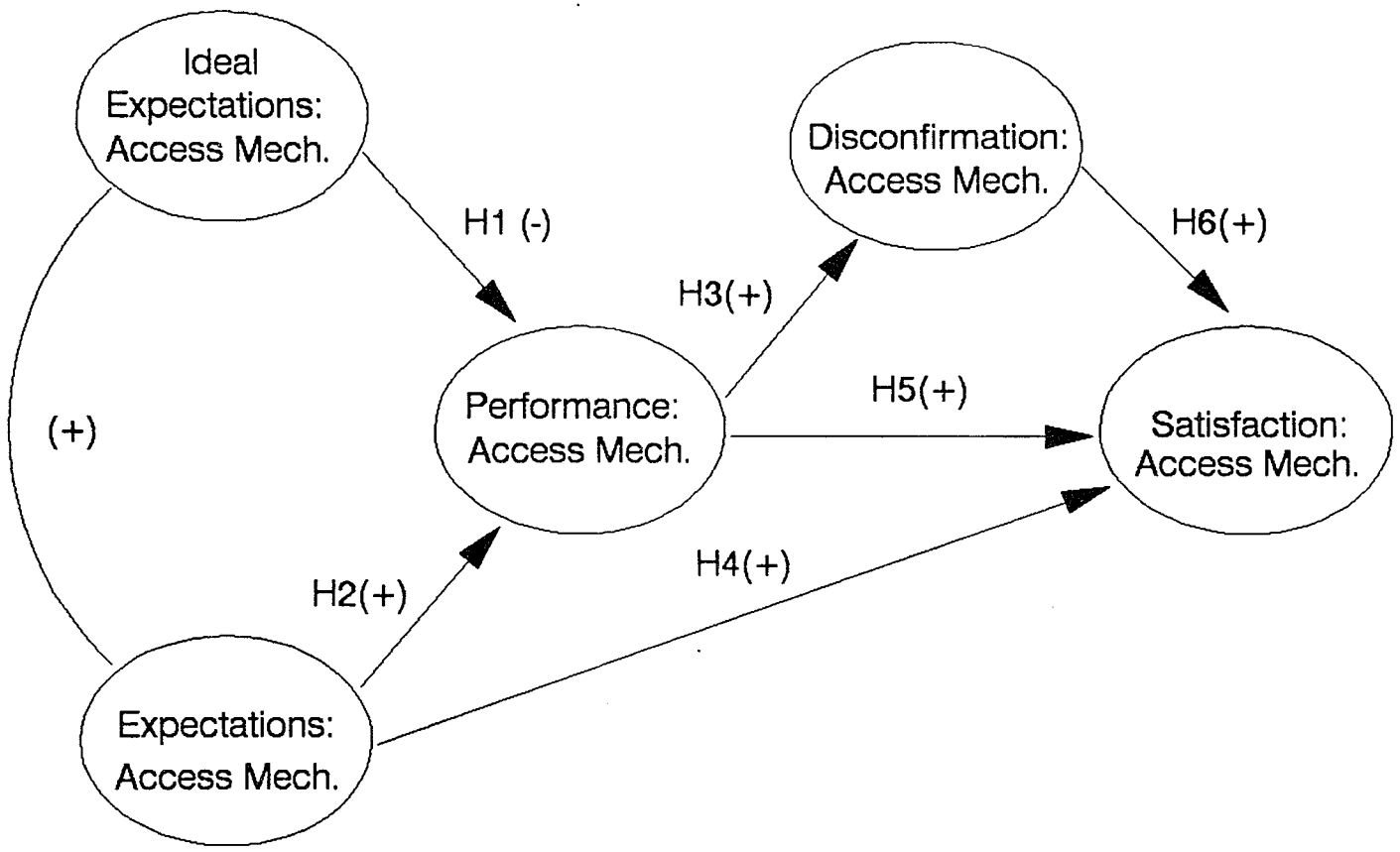
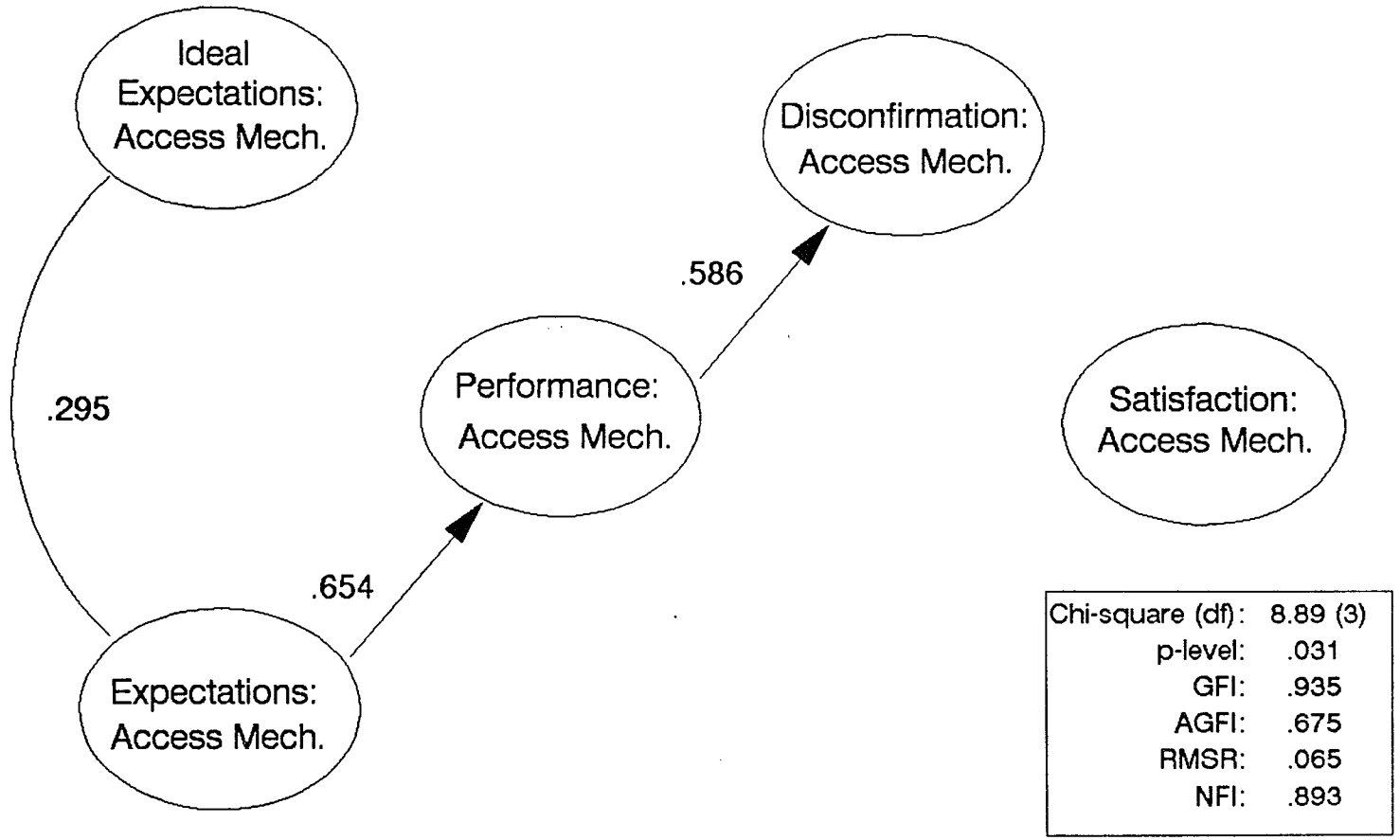


FIGURE 4.8
Access Mechanisms Submodel:
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES



Overall Model of Patient Satisfaction

Factor Model

Once the four submodels were evaluated, they were integrated into an overall model of patient satisfaction with the service encounter. The purpose of this stage of the analysis was to determine the relative influence of patients' satisfaction with their own role, the doctor's role, the staff's role, and the convenience factors of the clinic service on their overall satisfaction with the clinic visit.

Although confirmatory factor analyses were previously performed on the satisfaction measures during the individual tests of the submodels, an additional confirmatory factor analysis was performed on five satisfaction scales: satisfaction with the patient's own role, satisfaction with the doctor's role, satisfaction with the staff's role, satisfaction with the access mechanisms, and satisfaction with the clinic visit in general. This was done to determine whether there were unidimensional measures of satisfaction with different aspects of the clinic visit and overall satisfaction.

The factor model (CFA) for the satisfaction measures exhibited a goodness of fit (GFI) value of .700 and an adjusted goodness of fit (AGFI) value of .650 which are both short of the criteria. The chi-square value was statistically nonsignificant which suggests that the fit of the proposed factor model was acceptable. The root mean square residual of .072 was within acceptable ranges but the normed fit index of .774 fell short of the criterion (.9).

The item reliabilities and factor loadings from the CFA for the 5 satisfaction

scales are presented in Table 4.11. Construct reliabilities and global measures of fit for the satisfaction scales are also contained in Table 4.11.

Table 4.11
Satisfaction Constructs:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Satisfaction with Patient's Own Role			
How satisfied are you with:			
1.	The degree to which you asked the doctor to explain something you did not understand.	.619	.787
3.	The extent to which you asked questions during your clinic visit.	.717	.847
4.	The extent to which you expressed your concerns.	.787	.887
5.	The extent to which you discussed alternative treatment plans with your doctor.	.490	.700
6.	Your ability to express your feelings.	.773	.879
7.	The extent to which you helped your doctor decide on an appropriate treatment plan.	.733	.856
8.	The degree to which you stated your preferences.	.610	.781
Composite Reliability = .93			
Average Variance Extracted = .68			

Table 4.11 continued
Satisfaction Constructs:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Satisfaction with the Doctor's Role			
How satisfied are you with:			
1.	The amount of personal attention you received from the doctor.	.716	.846
2.	The amount of time the doctor spent with you.	.676	.822
3.	The doctor's diagnosis and treatment plan.	.537	.733
5.	The amount of attention given to you by doctor.	.764	..874
7.	The doctor's consideration of you as a person.	.697	.835
8.	The degree to which the doctor answered all your questions.	.785	.886
9.	The information provided to you by the doctor.	.536	.732
10.	The doctor's knowledge of your problem.	.557	.746
11.	The doctor's carefulness.	.666	.816
12.	The extent to which the doctor listened to you.	.354	.595
13.	The doctor's treatment of you.	.645	.803
Composite Reliability = .95			
Average Variance Extracted = .63			

Table 4.11 continued
Satisfaction Constructs:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Satisfaction with the Staff's Role			
How satisfied are you with:			
1.	The doctor's nurses treatment of you.	.652	.808
7.	The receptionists and cashiers treatment of you.	.482	.694
Composite Reliability = .72 Average Variance Extracted = .55			
Satisfaction with the Access Mechanisms			
How satisfied are you with:			
5.	The ease of getting an appointment to see the doctor.	.728	.853
6.	The decor of the clinic.	.526	.725
8.	The convenience of your appointment time.	.750	.866
11.	The doctor's accessibility.	.760	.872
Composite Reliability = .89 Average Variance Extracted = .69			

Table 4.11 continued
Satisfaction Constructs:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Construct		Item Reliabilities	Factor Loadings
Overall Satisfaction with the Clinic			
Overall, how satisfied are you with the Bone and Joint Clinic?			
1.	Overall, I am very satisfied with the Bone and Joint Clinic.	.783	.885
2.	My choice to go to the clinic was a wise one.	.767	.876
3.	If I had to do it all over again, I would still go to the Bone and Joint Clinic.	.711	.843
4.	I feel bad about my choice to go to this clinic.	.461	.679
5.	I think I did the right thing when I decided to go to the Bone and Joint Clinic.	.884	.940
6.	I am pleased with the service provided by the Bone and Joint Clinic.	.407	.638
7.	If I had to do it all over again, I would choose another clinic.	.442	.665
Composite Reliability = .92			
Average Variance Extracted = .64			

Table 4.11 continued
Satisfaction Constructs:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliabilities

Goodness-of-fit index = .700
Adjusted goodness-of-fit index = .650
Root mean square residual = .072
Normed fit index = .774
Chi-square = 348.44 (n=55, DF=424, P < .997)
Chi-square = 905.95 (n=131, DF=424, P < .000)

As is evident from the individual reliabilities in Table 4.11, most items appear to be good indicators for the measured constructs. With the exception of six items (item 5 for patient satisfaction, item 12 for doctor satisfaction, item 7 for staff satisfaction, and items 4, 6, and 7 for overall satisfaction) most individual item reliabilities were above .50. The composite reliabilities ranged from 0.72 to 0.95. These composite reliabilities were above the criterion of 0.60. Since there were no standardized residuals greater than 2, no items were eliminated at this stage of the analyses. The results of the CFA suggest that the scales for the satisfaction constructs possess good internal consistency and unidimensionality. The items appear to be reliable measures of satisfaction with the patient's own role, satisfaction with the doctor's role, satisfaction with the staff's role, satisfaction with the access mechanisms, and overall satisfaction.

Discriminant Validity

The discriminant validity of the satisfaction measures was assessed by examining the correlations between items supposedly measuring the same form of

satisfaction (reliability coefficients) and items supposedly measuring different forms of satisfaction (validity coefficients). Evidence for discriminant validity has been discussed previously.

The items measuring satisfaction with one's own role, with the doctor's role, with the staff's role and overall satisfaction appear to have fairly good discriminant validity. With the exception of a few items, most within-construct correlation coefficients were higher than the between-construct correlation coefficients. For the measures of satisfaction with access mechanisms, there were a number of validity coefficients that were larger than the reliability correlation coefficients. The overall model was estimated with the inclusion of satisfaction with access mechanisms. This will be discussed in detail in Chapter Five.

Structural Equation Model

The hypothesized relationships for the overall model of patient satisfaction are shown in Figure 4.9. Figure 4.10 shows the significant relationships for the overall model of patient satisfaction. The standardized parameter estimates and measures of fit for the test of the overall model of patient satisfaction are presented in Table 4.12. The chi-square statistic was significant (chi-square = 346.93, degrees of freedom = 154, $p < .000$) suggesting that fit of the proposed structural model could be improved. The other fit indices also fell short of prespecified criteria (GFI = .640, AGFI = .461, RMSR = .195, NFI = .633). The fit statistics for the overall model of patient satisfaction indicate that the proposed model could fit the data better.

To summarize the information in Table 4.12 and Figure 4.10, ideal expectations exerted a significant influence on performance in one submodel, the doctor submodel. The relationship between ideal expectations and performance for the doctor submodel was positive, which was opposite to what was predicted. Table 4.12 also indicates that expectations was significantly and positively related to performance as predicted by hypothesis two. The relationship between performance and disconfirmation as predicted by hypothesis three was also consistently found across the four submodels. A significant relationship between expectations and satisfaction was found for the access mechanisms submodel. Performance was a significant predictor of satisfaction for the doctor satisfaction submodel. Disconfirmation was significantly related to satisfaction for all four submodels.

The primary goal of this stage of the analyses was to assess the relative influence of different forms of satisfaction on the patients' overall satisfaction with the clinic visit. Satisfaction with the doctor's role, with the staff's role, and with the convenience factors of the service were all found to be significant predictors of patients' overall satisfaction with the clinic visit. Patients' satisfaction with their own role had a negative influence on their overall satisfaction with the clinic. This finding will be discussed in Chapter Five.

Table 4.12

Standardized Structural Parameter Estimates
and T-Values
for Proposed Overall Model of Patient Satisfaction

Proposed Relationships From ----- To		Parameters (T-Values)
H1:	Ideal expectations ----- Performance	
	Patient Submodel	.052 (0.33)
	Doctor Submodel	.248** (2.01)
	Staff Submodel	.085 (0.65)
	Access Mechanisms Submodel	.192 (1.44)
H2:	Expectations ----- Performance	
	Patient Submodel	.569*** (3.63)
	Doctor Submodel	.505*** (4.07)
	Staff Submodel	.596*** (4.50)
	Access Mechanisms Submodel	.669*** (4.75)
H3:	Performance ----- Disconfirmation	
	Patient Submodel	.529*** (3.69)
	Doctor Submodel	.758*** (7.33)
	Staff Submodel	.840*** (8.22)
	Access Mechanisms Submodel	.593*** (4.21)

Table 4.12 continued

Standardized Structural Parameter Estimates
and T-Values
for Proposed Overall Model of Patient Satisfaction

Proposed Relationships From ----- To		Parameters (T-Values)
H4:	Expectations ----- Satisfaction	
	Patient Submodel	.025 (0.17)
	Doctor Submodel	.002 (0.02)
	Staff Submodel	.113 (0.73)
	Access Mechanisms Submodel	.460* (2.20)
H5:	Performance ----- Satisfaction	
	Patient Submodel	.213 (1.13)
	Doctor Submodel	.652*** (4.02)
	Staff Submodel	.332 (1.16)
	Access Mechanisms Submodel	.211 (0.60)
H6:	Disconfirmation ----- Satisfaction	
	Patient Submodel	.527*** (3.53)
	Doctor Submodel	.236* (1.65)
	Staff Submodel	.453* (1.70)
	Access Mechanisms Submodel	.238* (1.50)

Table 4.12 continued

Standardized Structural Parameter Estimates
and T-Values
for Proposed Overall Model of Patient Satisfaction

Proposed Relationships From ----- To	Parameters (T-Values)
Satisfaction Own Role ----- Overall Satisfaction	-.215 (-2.6**)
Satisfaction Doctor's Role ----- Overall Satisfaction	.450*** (5.16)
Satisfaction Staff's Role ----- Overall Satisfaction	.569*** (5.27)
Satisfaction Access Mechanisms ----- Overall Satisfaction	.258** (2.64)

Model Fit

Chi-square	346.93 (n=55, DF=154, Prob. < .000)
Chi-square	902.01 (n=131, DF=154, Prob. < .000)
GFI	.640
AGFI	.461
RMSR	.195
NFI	.633

Table 4.12 continued

Standardized Structural Parameter Estimates
and T-Values
for Proposed Overall Model of Patient Satisfaction

Structural Equations	(R^2)
Performance:	
Patient Submodel	.360
Doctor Submodel	.413
Staff Submodel	.402
Access Mechanisms	.559
Disconfirmation:	
Patient Submodel	.280
Doctor Submodel	.575
Staff Submodel	.706
Access Mechanisms	.352
Satisfaction:	
Patient Submodel	.457
Doctor Submodel	.715
Staff Submodel	.682
Access Mechanisms	.608
Overall Satisfaction	.848

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.9-HYPOTHESIZED RELATIONSHIPS: TOTAL MODEL

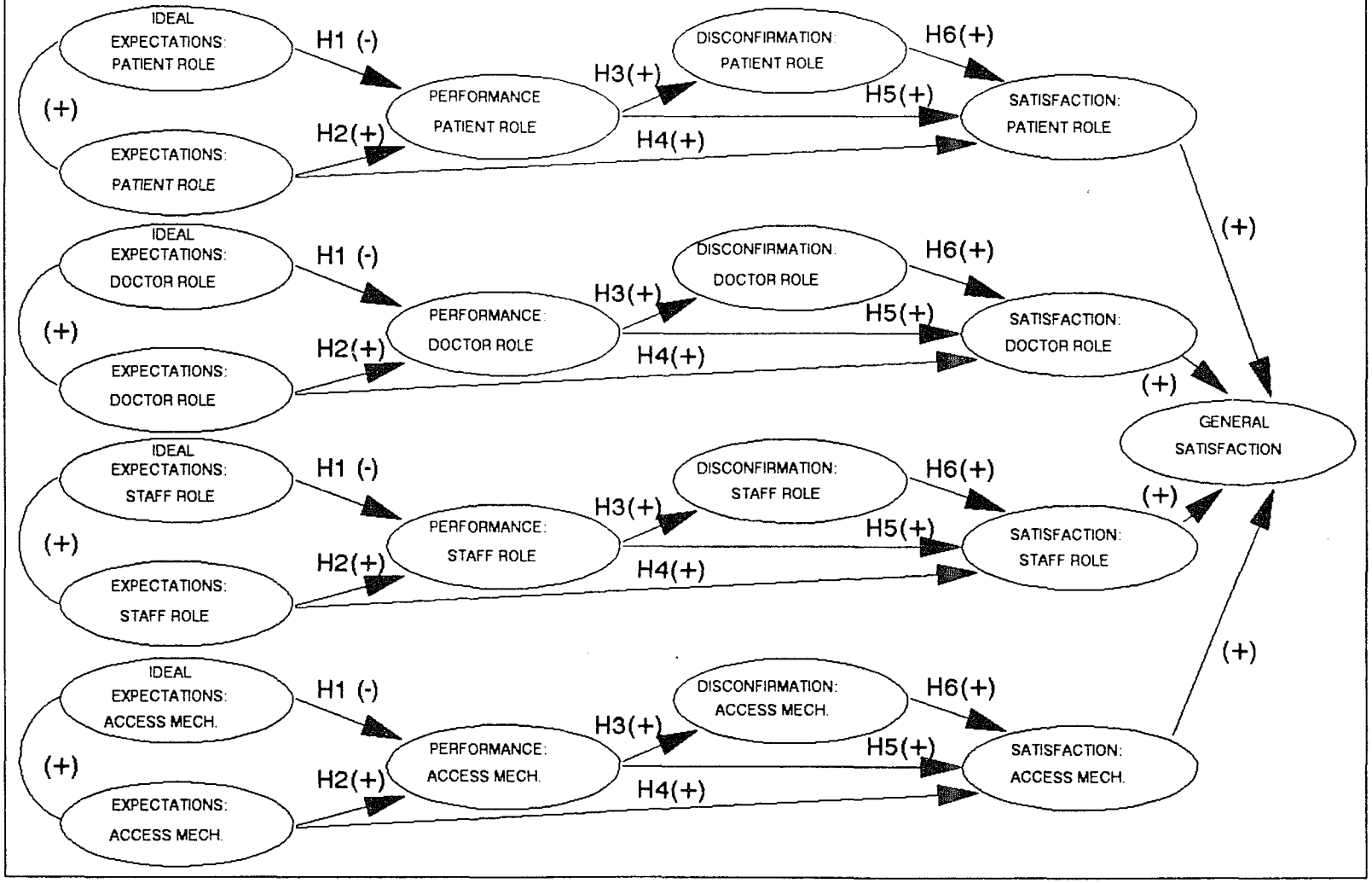
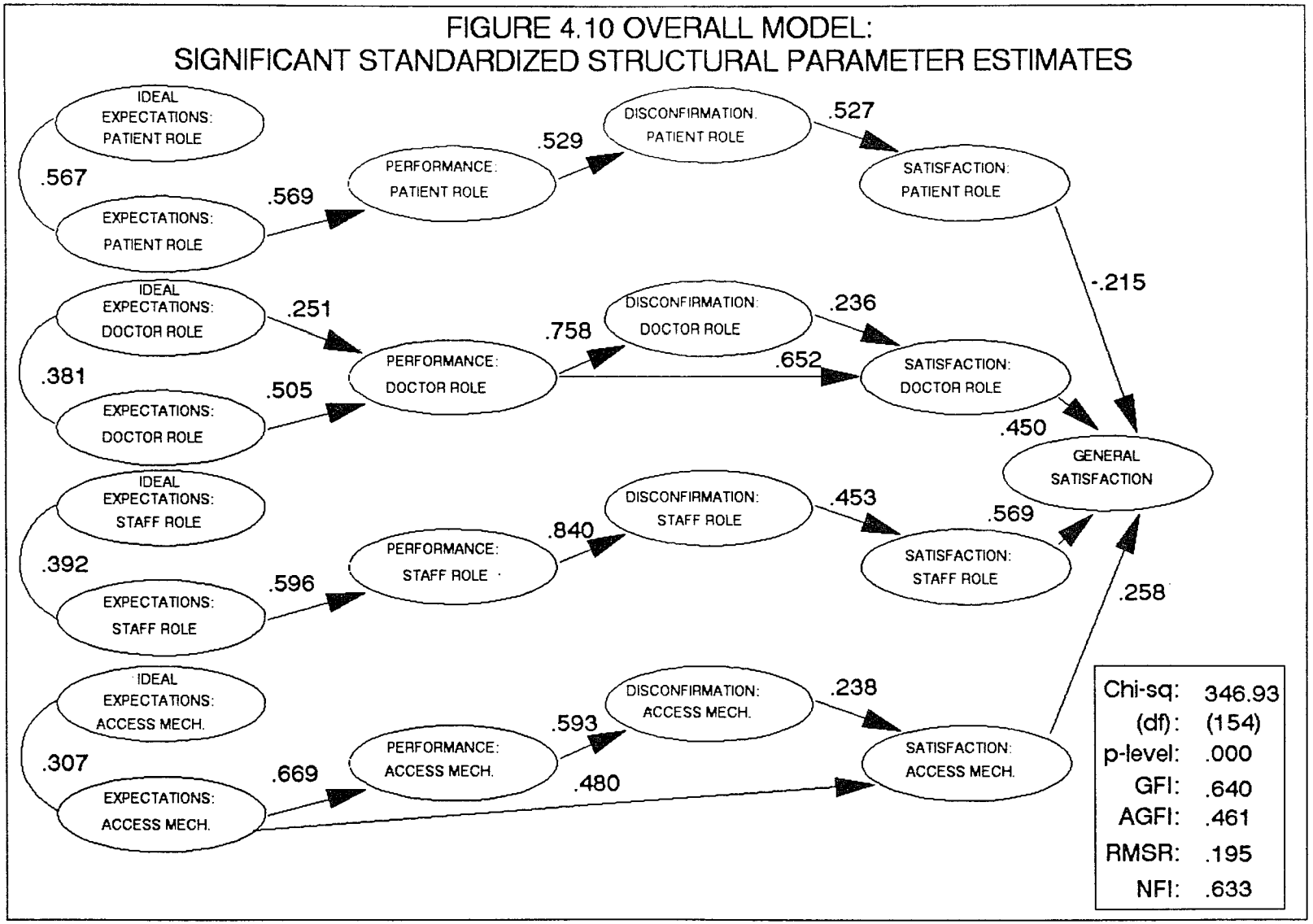


FIGURE 4.10 OVERALL MODEL: SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES



Summary of the Findings for the Four Satisfaction Submodels and the Overall Model of Satisfaction

Factor Models

In general, the factor models for the four submodels and for the satisfaction constructs in the overall model exhibited good fit. The global measures of fit, item reliabilities, composite reliabilities and standardized residuals indicate that the measures for the patient and doctor submodels were stronger than the measures for the staff and the access mechanisms submodels.

With the exception of the GFI and AGFI criteria, the global measures of fit for the patient factor model met or came very close to meeting the criteria. The composite reliabilities for the patient factor model ranged from .85 to .99. Global measures of fit for the doctor and access mechanisms factor models meet all but three criteria: the GFI, AGFI and NFI. In both factor models, the normed fit index came reasonably close to meeting the criterion of .9. Moreover, the composite reliabilities for the doctor factor model ranged from .94 to .99, and for the access mechanisms factor model ranged from .81 to .92. The global measures of fit for the staff factor model failed to meet most of the criteria. The chi-square statistic was significant suggesting that the fit of the factor model could be improved. The GFI, AGFI, RMSR, and NFI fell short of the prespecified criteria. In addition, there were 10 pairs of standardized residuals between 2 and 3 in magnitude. The composite reliabilities for the staff submodel ranged from .69 to .97. The composite reliability of .69 was for a 2 item scale. This may partially explain why it was so much lower than the other scales. Global measures of fit for the satisfaction

measures of the overall model meet all but three criteria: GFI, AGFI and NFI. The NFI did come reasonably close and the composite reliabilities were relatively high (.72 to .95). In summary, with the exception of items for the staff's role, items for the other three submodels and for the overall model appear to be reliable measures of the theoretical constructs.

Validity of the Measures

For all four submodels, the performance measures lacked evidence of discriminant validity. Although the hypotheses were tested with composite measures of performance included in the models, the interpretation of the results was mindful of the validity problems associated with the performance measures. A detailed discussion of the conclusions drawn from the findings of this research is contained in Chapter Five.

Structural Models

The structural submodels also fit the data relatively well. Most of the global measures of fit for each of the four submodels meet the specified criteria. However, since the models had few degrees of freedom, more meaningful criteria include parameter estimates confirming the hypotheses and explained variance for the satisfaction constructs.

In terms of individual submodel tests of the hypotheses, three of the six proposed relationships were significant ($p < .05$) for the doctor's submodel. Performance was significantly influenced by expectations (H2); disconfirmation was significantly influenced by performance (H3); and satisfaction was significantly

influenced by performance (H4). Although not statistically significant in the individual test of the submodel, the relationships between ideal expectations and performance (H1) and between disconfirmation and satisfaction for the doctor's role (H6) became significant ($p < .05$) when the hypothesis was tested for the overall model. Seventy-one percent of the variance in satisfaction with the doctor's role was explained by the doctor submodel.

When the patient satisfaction submodel was tested individually, three of the six proposed relationships were significant ($p < .05$): performance was significantly influenced by expectations (H2); disconfirmation was significantly influenced by performance (H3); and satisfaction was significantly influenced by disconfirmation (H6). Forty-four percent of the variance in satisfaction with patient's own role was explained by the patient submodel.

Two of the six proposed relationships were significant ($p < .05$) for the individual test of the staff submodel: performance was significantly influenced by expectations (H2) and disconfirmation was significantly influenced by performance (H3). Although not statistically significant for the individual test of the staff submodel, the relationship between satisfaction and disconfirmation (H6) became statistically significant ($p < .05$) for overall model test. Eighty-two percent of the variance in satisfaction with the staff's role was explained by the staff submodel.

Similar to the staff submodel, two of the six proposed relationships were significant ($p < .05$) for the individual test of the access mechanisms submodel: performance was significantly influenced by expectations (H2) and disconfirmation

was significantly influenced by performance (H3). Also similar to the doctor and staff submodels, the relationships between disconfirmation and satisfaction (H6) for access mechanisms was not statistically significant for the individual submodel test but it became significant ($p < .05$) for the overall model test. The relationship between expectations and satisfaction also became significant for the overall model test. Sixty percent of the variance in satisfaction with the access mechanisms was explained by the access mechanisms submodel.

Global measures of fit for the overall model test suggested that the fit of the model could be improved. None of the fit statistics meet the prespecified criteria. Despite a poor fit, a number of significant relationships were found when the overall model of satisfaction was tested. The parameter estimates for the relationships between expectations and performance and between performance and disconfirmation were significant and large across all four submodels. The relationship between disconfirmation and satisfaction was significant across all four submodels. However, this relationship was relatively weak for the doctor's role and the access mechanisms (parameter estimates $< .30$). Interpretation of this result will follow in Chapter Five. A significant relationship between ideal expectations and performance (H1) was found for the doctor's role. The nature of the relationship was not as predicted. It was hypothesized that the relationship would be negative and it was found to be positive. A significant relationship between performance and satisfaction was also found for the doctor's role (H5). A significant relationship between expectations and satisfaction was found for access mechanisms (H4).

Overall satisfaction with the clinic was positively influenced by satisfaction with the doctor's role, satisfaction with the staff's role, and satisfaction with the access mechanisms. The strongest predictors of overall satisfaction were satisfaction with the doctor's and the staff's role (standardized structural parameters were .450 and .569, respectively). To a lesser degree, satisfaction with the access mechanisms also influenced overall satisfaction (standardized structural parameter was .258). Patient satisfaction with their own role had a negative influence on overall satisfaction with the clinic. This relationship will be discussed further in Chapter Five. Another criteria for evaluating the overall model is the amount of explained variance in the satisfaction constructs explained by the proposed model. The R^2's for the satisfaction constructs ranged from .457 for the patient's role to .848 for overall satisfaction. These R^2's are relatively high for this type of research.

Mediating Influence of Involvement

Factor Model

If the reader will recall from Chapter Three, involvement was measured in two ways-by a semantic differential scale and by a Likert scale. The first scale was the Personal Involvement Inventory originally developed by Zaichkowsky (1985). The second scale was developed for this research by the author and consisted of 13 items designed to measure the perceived importance of the doctor's visit. Confirmatory factor analyses were performed on both measures of involvement. The Likert scale proved to be superior to the semantic differential scale. The Likert scale not only had a higher composite reliability (.90 for the Likert scale versus .70

for the semantic differential) but as evident in Table 4.13 and Figures 4.11 and 4.12 it also had greater variance. The variance associated with the Likert scale made it possible to derive involvement groups by taking a median split. For these reasons, only the Likert measure of involvement was used in the analyses.

Table 4.13

Descriptive Statistics for Involvement Measures

Semantic Differential Scale (Personal Involvement Inventory)			
Mean	36.68	Std Dev	4.850
Median	40.00	Variance	23.52
Mode	40.00	Skewness	-2.32
Likert Scale			
Mean	23.10	Std Dev	6.159
Median	23.00	Variance	37.93
Mode	19.00	Skewness	-.274

Figure 4.11

Histogram for Semantic Differential Involvement Measure

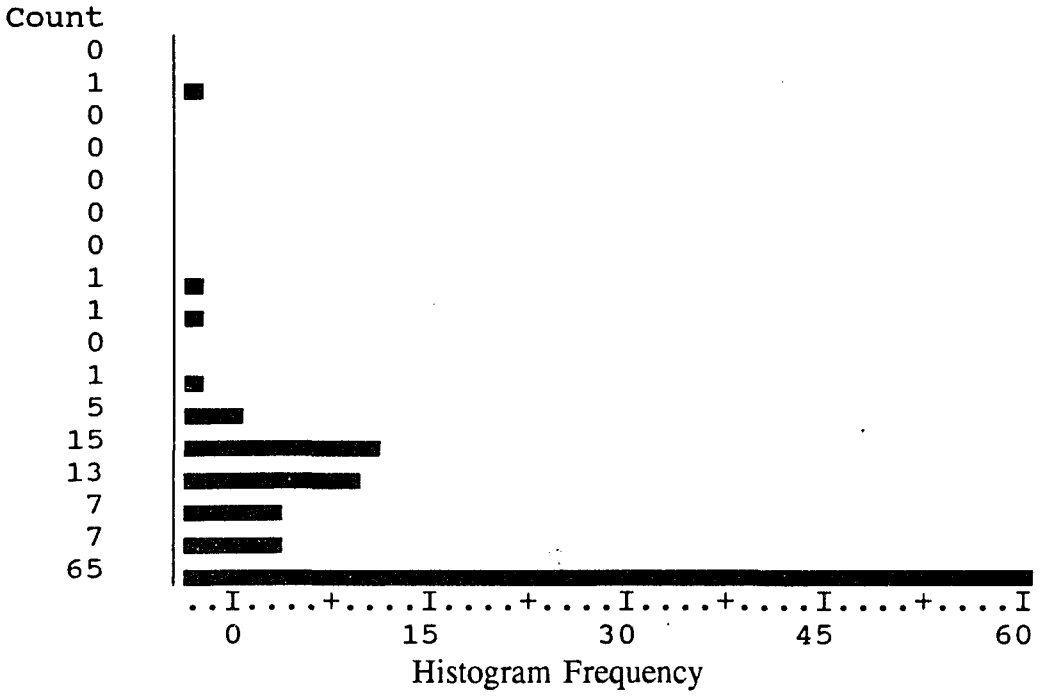
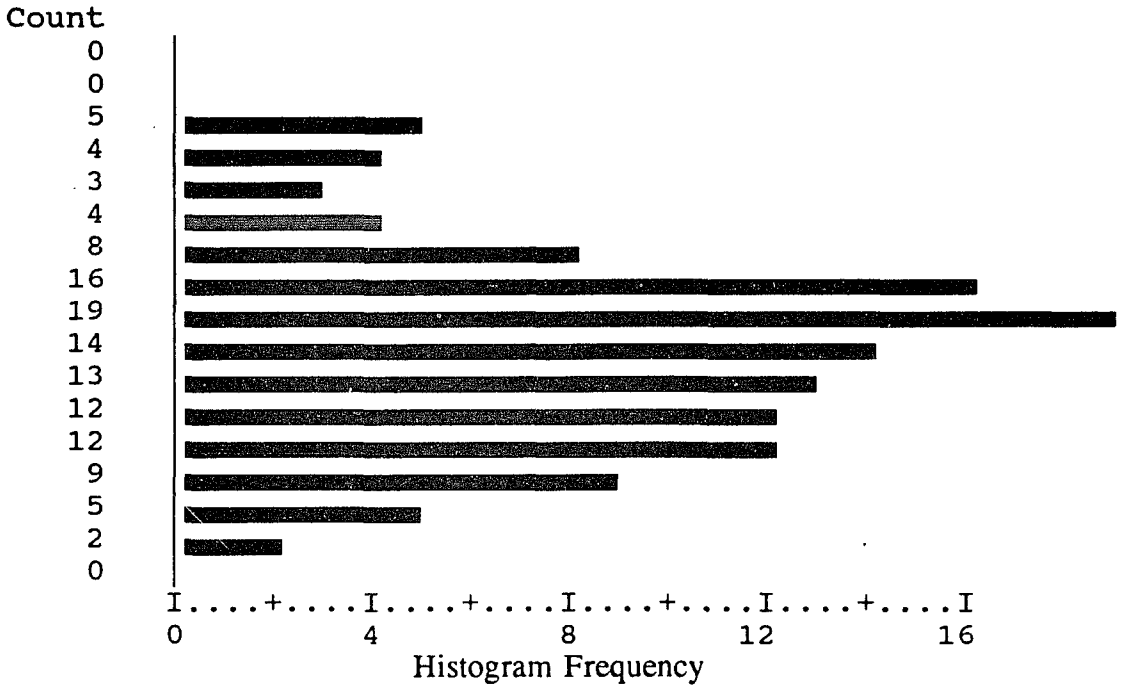


Figure 4.12

Histogram for Likert Involvement Measure



Confirmatory factor analysis (CFA) was performed on the Likert involvement scale. Results of the individual item analysis (reflected by the standardized residuals and individual reliabilities) suggested that a number of items would improve the scale if eliminated. The specific items considered for deletion included: items 7, 9 and 10 (See Appendix A: Dissertation Questionnaires). To assess the impact of eliminating these items, CFA was rerun after these items were deleted. The factor model (CFA) tested for the revised scale showed higher reliabilities and fewer standardized residuals of a large magnitude (> 2). The chi-square value for the revised factor model (CFA) for the involvement construct was statistically significant which suggests that the fit of the proposed factor model could be improved. However, other fit indices were within acceptable ranges or close to the prespecified criterion (GFI = .881, AGFI = .761, and RMSR = .062).

The item reliabilities and factor loadings from the CFA for the involvement construct are presented in Table 4.14. The construct reliability and global measures of fit for the involvement factor model are also contained in Table 4.14.

Table 4.14
Involvement:
LISREL Item Reliabilities, Factor Loadings,
and Composite Reliability

Construct		Item Reliabilities	Factor Loadings
Involvement			
1.	Today's visit to the clinic is very important to me.	.352	.593
2.	I am very concerned about today's clinic visit.	.605	.778
3.	I spent a lot of time thinking about today's clinic visit.	.745	.863
4.	I am very anxious about today's clinic visit.	.806	.898
5.	I am worried about today's visit to the clinic.	.618	.786
6.	I would describe today's clinic visit as being routine.	.305	.552
8.	I am very nervous about today's clinic visit.	.469	.684

Composite Reliability = .90
Average Variance Extracted = .56

Goodness-of-fit index = .881
Adjusted goodness-of-fit index = .761
Root mean square residual = .062
Chi-square = 56.81 with 14 degrees of freedom ($P < .000$)

As is evident from the individual reliabilities in Table 4.14, most items appear to be good indicators for the involvement construct. Most of the individual item reliabilities were close to or above .50. The composite reliability was .90 which was well above the criterion of 0.60. Most of the global measures of fit were acceptable. There were no standardized residuals greater than 2 which supports the unidimensionality of the involvement measure. The results of the CFA for the involvement construct suggest the items appear to be reliable measures of involvement.

Reliability and Validity of Measures Across Involvement Samples

To verify that the internal consistency of the scales did not differ across the involvement samples, reliabilities for each of the constructs (based on Cronbach's Alpha) were calculated separately for the high and low involvement sample. With two exceptions, the reliability coefficients across the involvement samples were either very similar or identical. The two exceptions had to do with the scales measuring ideal expectations for the patient's role and satisfaction with the staff's role. The scale measuring ideal expectations for the patient's role was less reliable for the high involvement sample (alpha=.49) than for the low involvement sample (alpha=.83). The scale measuring satisfaction with the staff's role was more reliable for the high involvement sample (alpha=.60) than for the low involvement sample (alpha=.35). If the reader will recall, this scale consisted of only two items and in comparison to the other scales was the least reliable measure in the study. It would appear that satisfaction with the staff's role was not adequately captured for

either sample.

To verify the discriminant validity of the measures across involvement samples, reliability coefficients (correlations between items supposedly measuring the same construct using the same measurement method) and validity coefficients (correlations between items supposedly measuring different constructs using the same measurement method) were examined for each of the involvement samples.

With the exception of the performance measures, the items measuring the patient submodel constructs appear to have good discriminant validity for both involvement samples. The items measuring disconfirmation and satisfaction were significantly correlated but the within-construct correlation coefficients were generally higher than the between-construct correlations. For the high involvement sample, many of the items measuring performance and disconfirmation were significantly correlated with some between-construct correlation coefficients higher than some within-construct correlation coefficients. This was not the case for the low involvement sample. If the reader will recall, the validity of the performance construct for the patient submodel presented a problem when the correlations were run on the entire sample. This result will be discussed further in Chapter Five.

For the doctor's role, an examination of the reliability and validity coefficients suggests that items measuring expectations, disconfirmation, and satisfaction possess reasonable discriminant validity for both involvement samples. The items measuring ideal expectations did not have good reliability for the low involvement sample. For the high involvement sample, items measuring ideal

expectations appeared to have both good reliability and discriminant validity. For both samples, items measuring performance were again problematic. The measures for performance were highly correlated with measures for disconfirmation and satisfaction.

For the staff constructs, there were no major differences in the patterns of within-construct and between-construct correlations across the two involvement samples. As discussed previously, the items measuring performance do not appear to possess good discriminant validity.

For the access mechanisms, the validity of the expectation and performance items is questionable for the low involvement sample. Some of the items measuring expectations were highly correlated with items measuring satisfaction. The performance measures for access mechanisms also lacked evidence of discriminant validity for the low involvement sample. For the high involvement sample, all the measures including satisfaction appeared to have fairly good discriminant validity.

Validity of the Involvement Measures

A concern related to the validity of the involvement construct was that patients' level of involvement was not independent of their level of experience with the medical condition and clinic. To test the hypothesis that the two variables were independent, a chi-square test of independence was performed. Involvement groups were categorized by taking a median split of the Likert composite scale. Group one was defined as patients with low involvement and group two as patients with high involvement. Experience groups were categorized as new patients to the clinic

(NP), old patients with a new medical condition (OPNC), and old patients with the same medical condition (OPSC). As shown in Table 4.15, the chi-square statistic was nonsignificant. Thus, we can accept the hypothesis that the two variables are independent.

Table 4.15

Crosstabulation of Involvement and Experience

		EXPERIENCE			
	Count Row Pct	NP 1	OPNC 2	OPSC 3	Row Total
INV	1.00	21 32.3	9 13.8	35 53.8	65 53.3
	2.00	23 40.4	8 14.0	26 45.6	57 46.7
	Column Total	44 36.1	17 13.9	61 50.0	122 100.0

Chi-Square	.95713
D.F.	2
Significance	.6197
Min E.F.	7.943
Cells with E.F. < 5	None

Mediating Influence of Involvement on Structural Equation Model

As is commonly done in the marketing literature, patient involvement categories were defined by a median split (Oliver and Bearden 1983). Once these involvement groups were derived, the structural equation models for each of the four submodels were reestimated using multi-sample LISREL analyses as discussed in Chapter Three. To assess the impact of involvement on the proposed structural models, four separate multi-sample analyses were performed: 1) with the relationship between expectations to satisfaction constrained to be equal across involvement samples, 2) with the relationship between performance and satisfaction constrained to be equal, 3) with the relationship between disconfirmation and satisfaction constrained to be equal and 4) with the constraints relaxed. To test the significance of the difference in parameter estimates between the two samples, the chi-square difference procedure suggested by Hayduk (1987) and discussed in Chapter Three was used. In addition, patterns of relationships for each of the submodels were examined. Significant parameter estimates predicting satisfaction were ranked according to magnitude. For the high involvement sample, it was predicted that performance would be the strongest predictor of satisfaction followed by expectations and disconfirmation (H7a). For the low involvement sample, it was predicted that expectations and disconfirmation would be the strongest predictors of satisfaction followed by performance (H7b).

In reporting the results of the multi-sample LISREL analyses, four tables are presented for each submodel. The first table for each submodel reports parameter

estimates and chi-square statistics for the unconstrained model. The unconstrained model was the model that was reestimated relaxing the equality constraints between the involvement samples. This first table is followed by two figures showing significant parameter estimates for the unconstrained model under conditions of low and high involvement. The next three tables for each submodel present parameter estimates and chi-square statistics for the models with constrained parameters. The chi-square difference tests are also presented in these tables. When significant differences were found, two additional figures are provided to show the differences between the involvement samples.

Effects of Involvement on Patient Satisfaction Submodel

To test the effects of involvement on the patient satisfaction structural model, the submodel was reestimated using LISREL multi-sample analyses. Table 4.16 contains the standardized structural parameter estimates for the high and low involvement groups when the constraints were relaxed. Figure 4.13 and Figure 4.14 show the significant parameter estimates for the low involvement sample and the high involvement sample, respectively.

As indicated in Table 4.16 and Figures 4.13 and 4.14, the primary difference between the low and high involvement groups was that hypothesis one was supported for the low involvement group but not for the high involvement group. While ideal expectations was significantly related to performance for the low involvement group, it was in the direction opposite to what was predicted. The relationship was predicted to be negative and it was positive. The relationship between ideal

expectations and performance was not hypothesized to be different for the two involvement samples (refer to H7a and H7b on the previous page).

Table 4.16

Patient Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Unconstrained Model

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.339 (2.06)	-.042 (-.30)
H2:	Expectations to Performance	.357* (2.17)	.613*** (4.41)
H3:	Performance to Disconfirmation	.455* (3.06)	.586** (4.23)
H4:	Expectations to Satisfaction	.117 (0.76)	-.08 (-.55)
H5:	Performance to Satisfaction	.244 (1.34)	.140 (.746)
H6:	Disconfirmation to Satisfaction	.411* (2.83)	.667** (4.35)
Model Fit			
Chi-square		18.56	
(df)		6	
Prob.		.005	

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.13
Patient Submodel: Low Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
UNCONSTRAINED MODEL

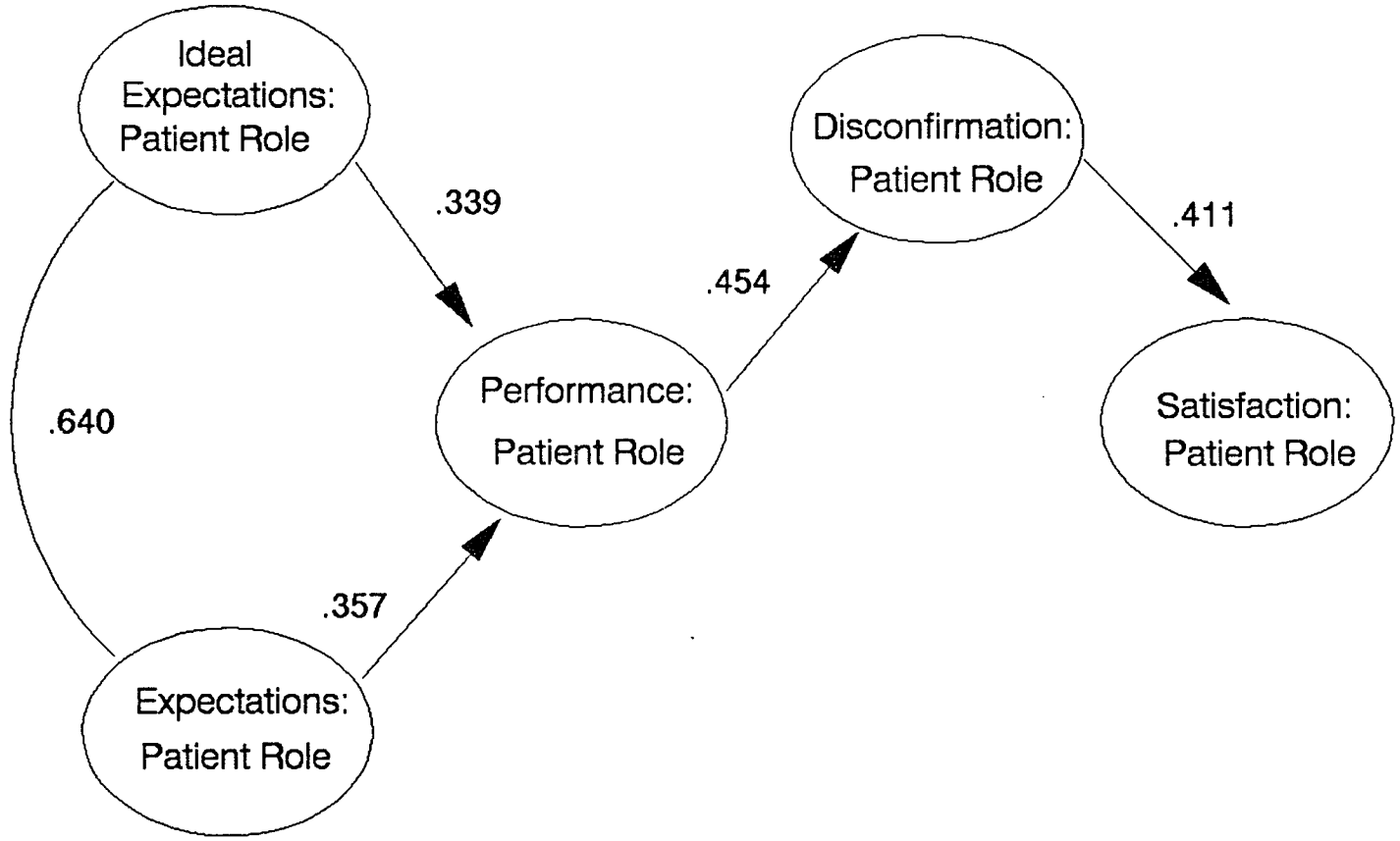
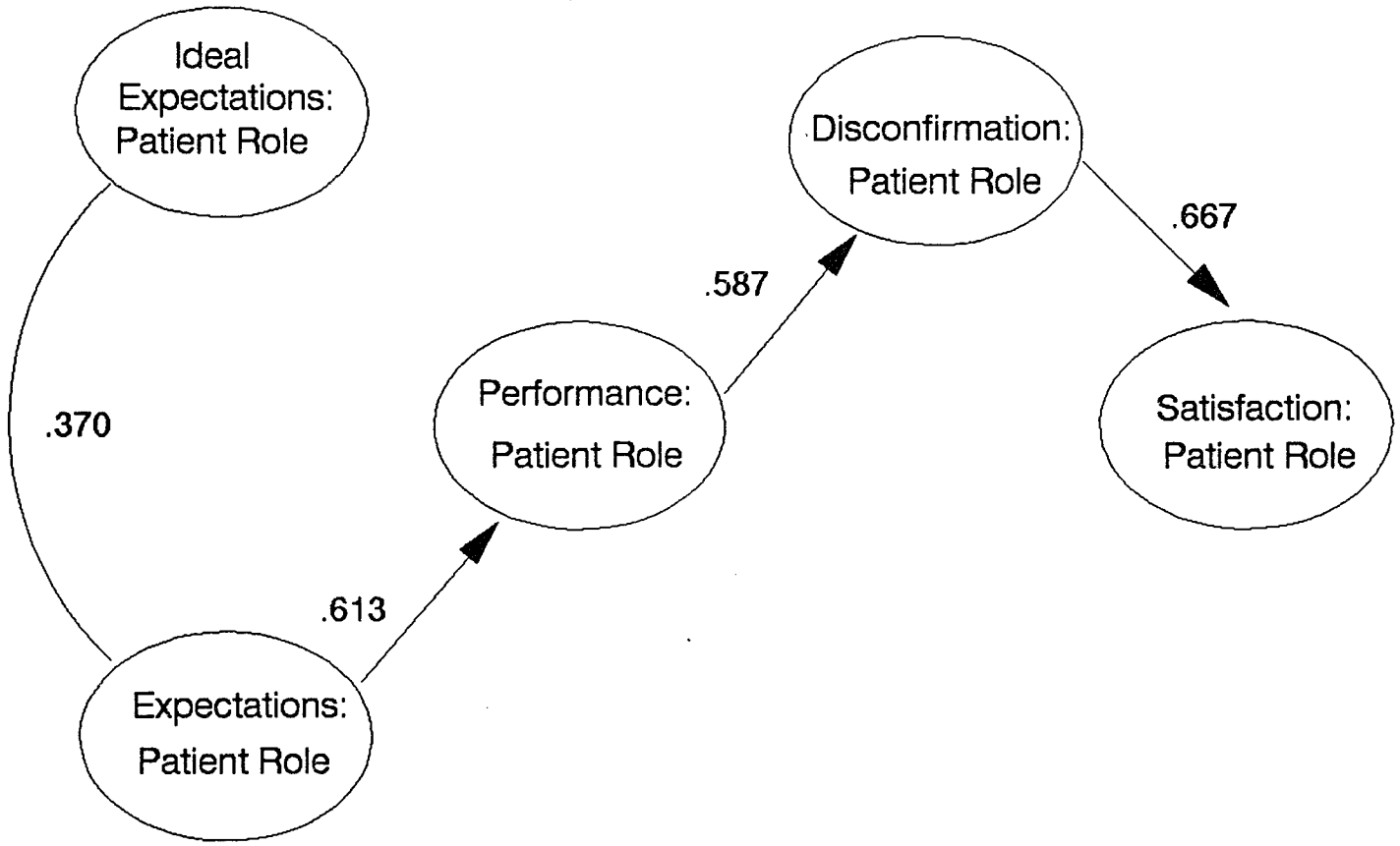


FIGURE 4.14
Patient Submodel: High Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
UNCONSTRAINED MODEL



The patient satisfaction submodel was reestimated three more times, constraining the parameters between 1) expectations and satisfaction, 2) performance and satisfaction, and 3) disconfirmation and satisfaction to be equal between the high and low involvement groups. Tables 4.17, 4.18, and 4.19 show the structural parameter estimates for each of these constrained models, respectfully. Also included in the tables are the chi-square difference tests.

The chi-square difference tests shown in Tables 4.17 and 4.18 suggest that the hypotheses that the relationship between expectations and satisfaction and between performance and satisfaction are equal across the two involvement samples should be accepted. No significant differences in these parameters were found across the different involvement groups for the patient satisfaction submodel.

As Table 4.19 and Figures 4.15 and 4.16 show significant differences across involvement samples were found for the parameter between disconfirmation and satisfaction. A significant chi-square difference between the constrained and unconstrained model leads us to reject the hypothesis that the disconfirmation-satisfaction relationship is equal between the two involvement groups. Under conditions of high involvement, performance was the only significant predictor of satisfaction. Under conditions of low involvement, disconfirmation was the only significant predictor of satisfaction. Expectations was not a significant predictor of satisfaction.

Table 4.17

Patient Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Constraining Expectations to Satisfaction to be Equal

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.339* (2.06)	-.041 (-.29)
H2:	Expectations to Performance	.357* (2.17)	.608** (4.37)
H3:	Performance to Disconfirmation	.455* (3.06)	.586** (4.22)
H4:	Expectations to Satisfaction	.117 (0.76)	.000 (.000)
H5:	Performance to Satisfaction	.243 (1.34)	.072 (0.46)
H6:	Disconfirmation to Satisfaction	.410* (2.83)	.687** (4.48)
Model Fit			
Chi-square		18.84	
(df)		7	
Prob		.009	
Chi-square difference		.28	
(df)		1	

*, **, ***, significant at .05, .01, and .001, respectively.

Table 4.18

Patient Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Constraining Performance to Satisfaction to be Equal

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.339* (2.06)	-.039 (-.28)
H2:	Expectations to Performance	.357* (2.17)	.610** (4.37)
H3:	Performance to Disconfirmation	.455* (3.06)	.594** (4.31)
H4:	Expectations to Satisfaction	.117 (0.76)	-.014 (-.12)
H5:	Performance to Satisfaction	.243 (1.34)	.000 (.000)
H6:	Disconfirmation to Satisfaction	.410* (2.83)	.738** (5.85)
Model Fit			
Chi-square		19.04	
(df)		7	
Prob		.060	
Chi-square difference		.48	
(df)		1	

*, **, ***, significant at .05, .01, and .001, respectively.

Table 4.19

Patient Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Constraining Disconfirmation to Satisfaction to be Equal

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.340* (2.06)	-.014 (-.09)
H2:	Expectations to Performance	.358* (2.17)	.596** (4.28)
H3:	Performance to Disconfirmation	.453* (3.06)	.648** (4.84)
H4:	Expectations to Satisfaction	.117 (0.76)	-.243 (-.14)
H5:	Performance to Satisfaction	.242 (1.34)	.704** (3.91)
H6:	Disconfirmation to Satisfaction	.410* (2.83)	.000 (.000)
Model Fit			
Chi-square		33.65	
(df)		7	
Prob		.000	
Chi-square difference		15.1**	
(df)		1	

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.15
Patient Submodel: Low Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
CONSTRAINING DISCONFIRMATION --> SATISFACTION TO BE EQUAL

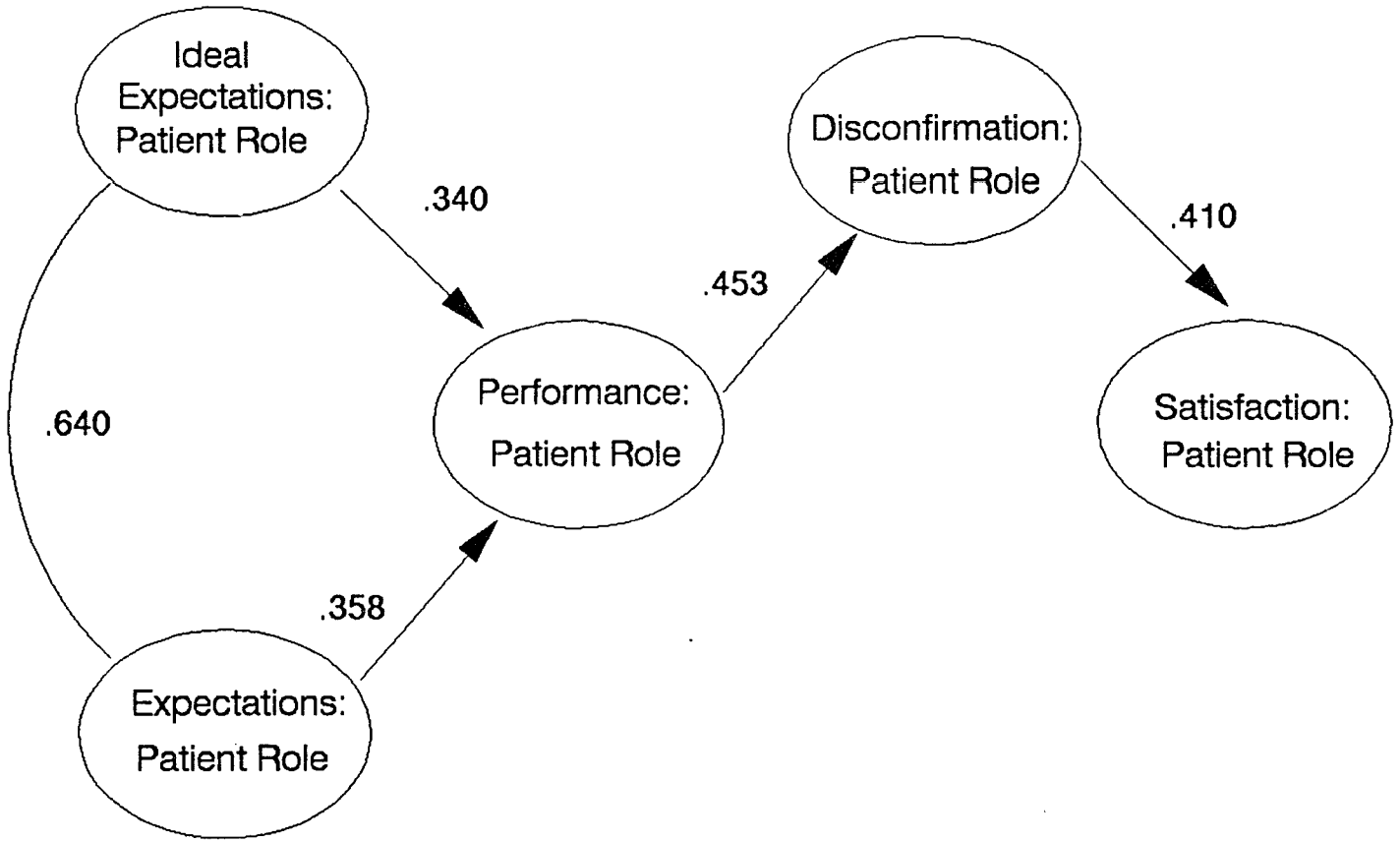
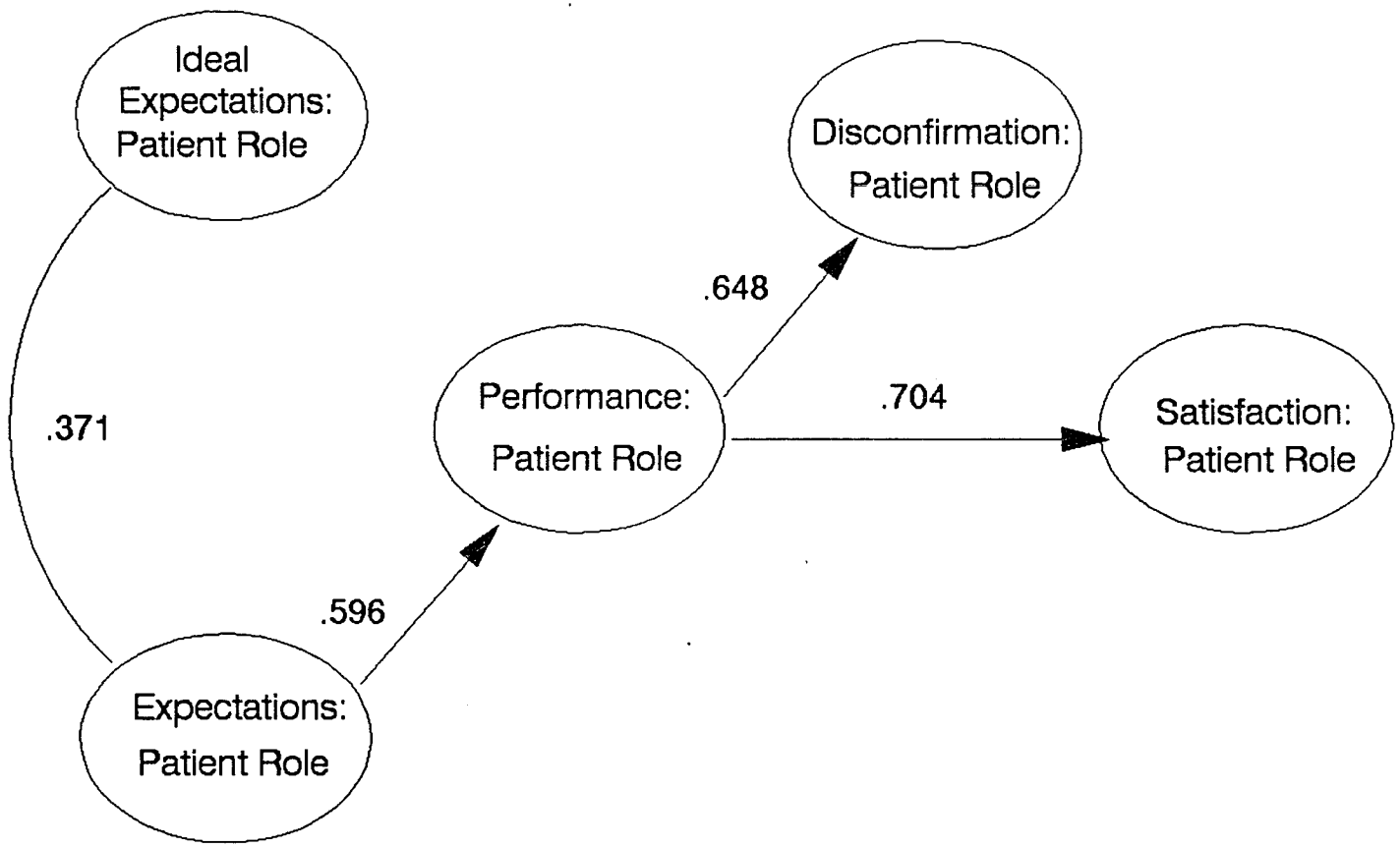


FIGURE 4.16
Patient Submodel: High Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
CONSTRAINING DISCONFIRMATION --> SATISFACTION TO BE EQUAL



Effects of Involvement on Doctor Satisfaction Submodel

As with the patient satisfaction submodel, the effects of involvement on the doctor satisfaction model were tested using multi-sample LISREL analyses. Table 4.20 contains the standardized structural parameter estimates for the high and low involvement sample when the constraints specified earlier were relaxed. Figures 4.17 and 4.18 show the significant parameter estimates for the low involvement sample and the high involvement sample, respectively.

As indicated in Table 4.20 and Figures 4.17 and 4.18, one difference between the samples was that ideal expectations was a significant predictor of performance for the low involvement sample but not for the high involvement sample. The relationship was positive which is counter to hypothesis one. This pattern was similar to that found for the patient submodel.

Another difference detected between the two groups for the doctor submodel, was that disconfirmation was significant (at the .05 level) under conditions of high involvement but not under conditions of low involvement. For both samples, the strongest predictor of satisfaction for the unconstrained doctor satisfaction submodel was performance.

Table 4.20

Doctor Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Unconstrained Model

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.348* (3.05)	.216 (1.61)
H2:	Expectations to Performance	.504** (4.41)	.460** (3.44)
H3:	Performance to Disconfirmation	.756*** (7.27)	.763*** (7.40)
H4:	Expectations to Satisfaction	-.071 (-.65)	.069 (.676)
H5:	Performance to Satisfaction	.739** (4.59)	.543** (3.50)
H6:	Disconfirmation to Satisfaction	.197 (1.40)	.319* (2.28)
Model Fit			
Chi-square		12.62	
(df)		6	
Prob.		.050	

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.17
Doctor Submodel: Low Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
UNCONSTRAINED MODEL

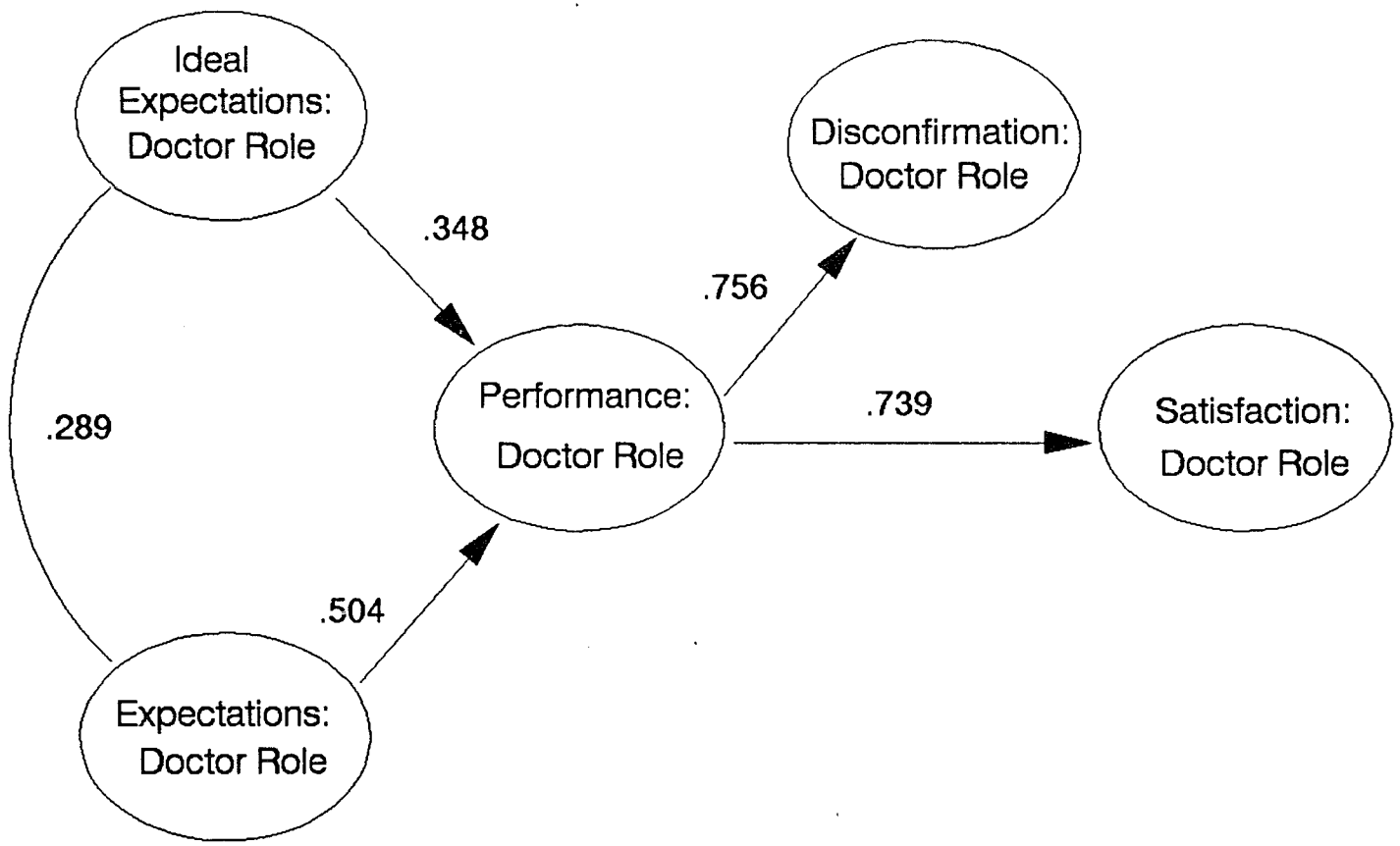
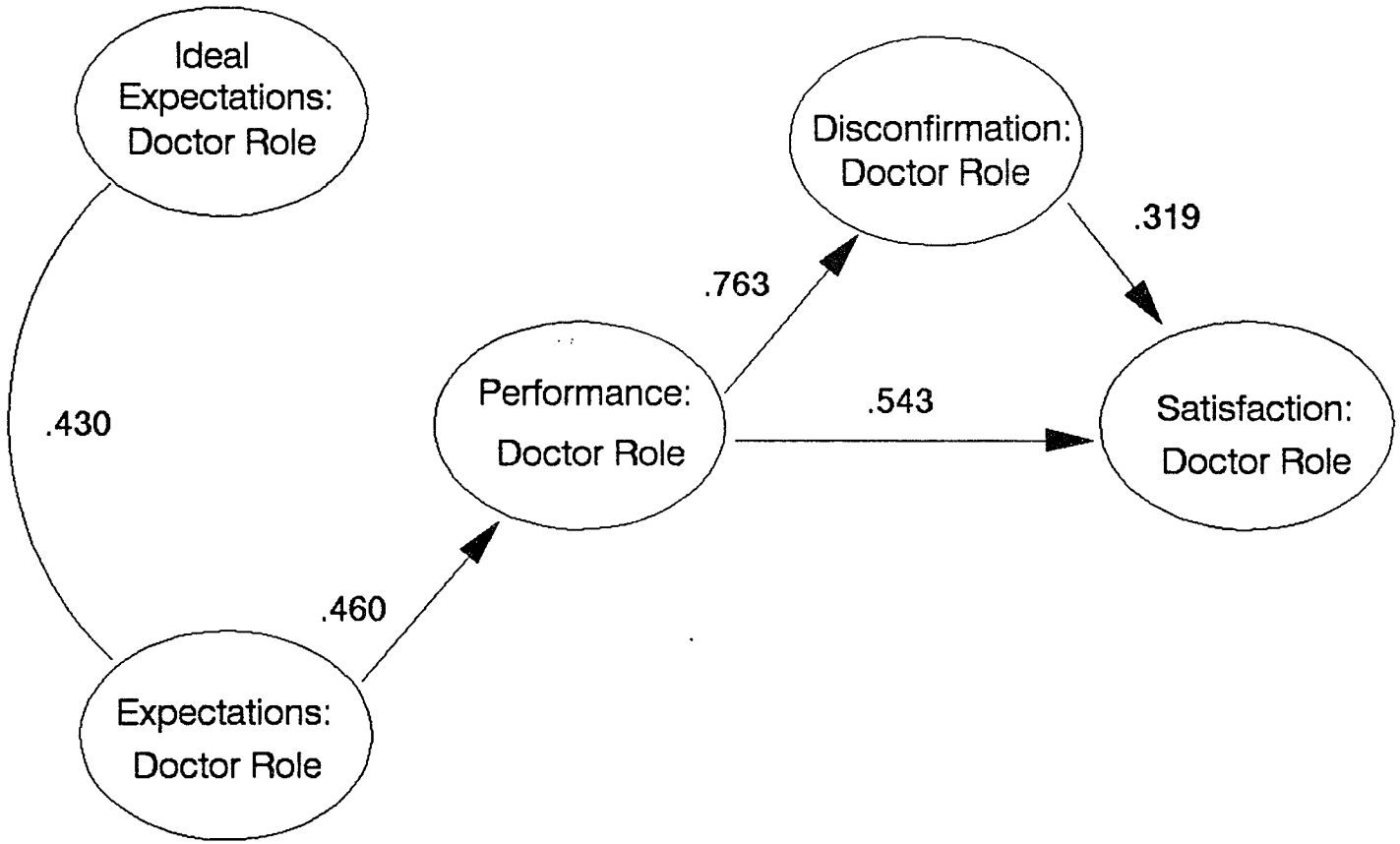


FIGURE 4.18
Doctor Submodel: High Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
UNCONSTRAINED MODEL



The doctor satisfaction submodel was reestimated three more times, constraining the parameters between 1) expectations and satisfaction, 2) performance and satisfaction, and 3) disconfirmation and satisfaction to be equal across involvement samples. Tables 4.21, 4.22, 4.23 show the structural parameter estimates and chi-square difference tests for each of these constrained models.

The chi-square difference tests shown in Tables 4.21 and 4.23 suggest that the hypotheses that the relationship between expectations and satisfaction and between disconfirmation and satisfaction are equal across the two involvement samples should be accepted. No significant differences in these parameters were found across the involvement samples.

As is evident in Table 4.22 and Figures 4.19 and 4.20, a significant difference across involvement samples was found for the parameter between performance and satisfaction for the doctor submodel. A significant chi-square difference between the constrained and unconstrained models leads us to reject the hypothesis that the performance-satisfaction relationship was the same across involvement groups. Performance was the only predictor of satisfaction under conditions of low involvement and disconfirmation was the only predictor of satisfaction under conditions of high involvement.

Table 4.21

Doctor Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Constraining Expectations to Satisfaction to be Equal

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.348* (3.05)	.215 (1.61)
H2:	Expectations to Performance	.504** (4.42)	.465** (3.48)
H3:	Performance to Disconfirmation	.756*** (7.28)	.763*** (7.42)
H4:	Expectations to Satisfaction	-.071 (-.65)	.000 (.000)
H5:	Performance to Satisfaction	.738** (4.59)	.559** (3.95)
H6:	Disconfirmation to Satisfaction	.197 (1.40)	.348* (2.49)
Model Fit			
Chi-square		13.03	
(df)		7	
Prob.		.291	
Chi-square difference		.41	
(df)		1	

*, **, ***, significant at .05, .01, and .001, respectively.

Table 4.22

Doctor Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Constraining Performance to Satisfaction to be Equal

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.348* (3.07)	.218 (1.63)
H2:	Expectations to Performance	.504** (4.42)	.460** (3.44)
H3:	Performance to Disconfirmation	.756*** (7.28)	.777*** (7.73)
H4:	Expectations to Satisfaction	-.072 (-.65)	.139 (1.31)
H5:	Performance to Satisfaction	.744** (4.59)	.000 (.000)
H6:	Disconfirmation to Satisfaction	.199 (1.40)	.710*** (6.60)
Model Fit			
Chi-square		25.26	
(df)		7	
Prob.		.001	
Chi-square difference		12.64***	
(df)		1	

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.19
Doctor Submodel: Low Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
CONSTRAINING PERFORMANCE --> SATISFACTION TO BE EQUAL

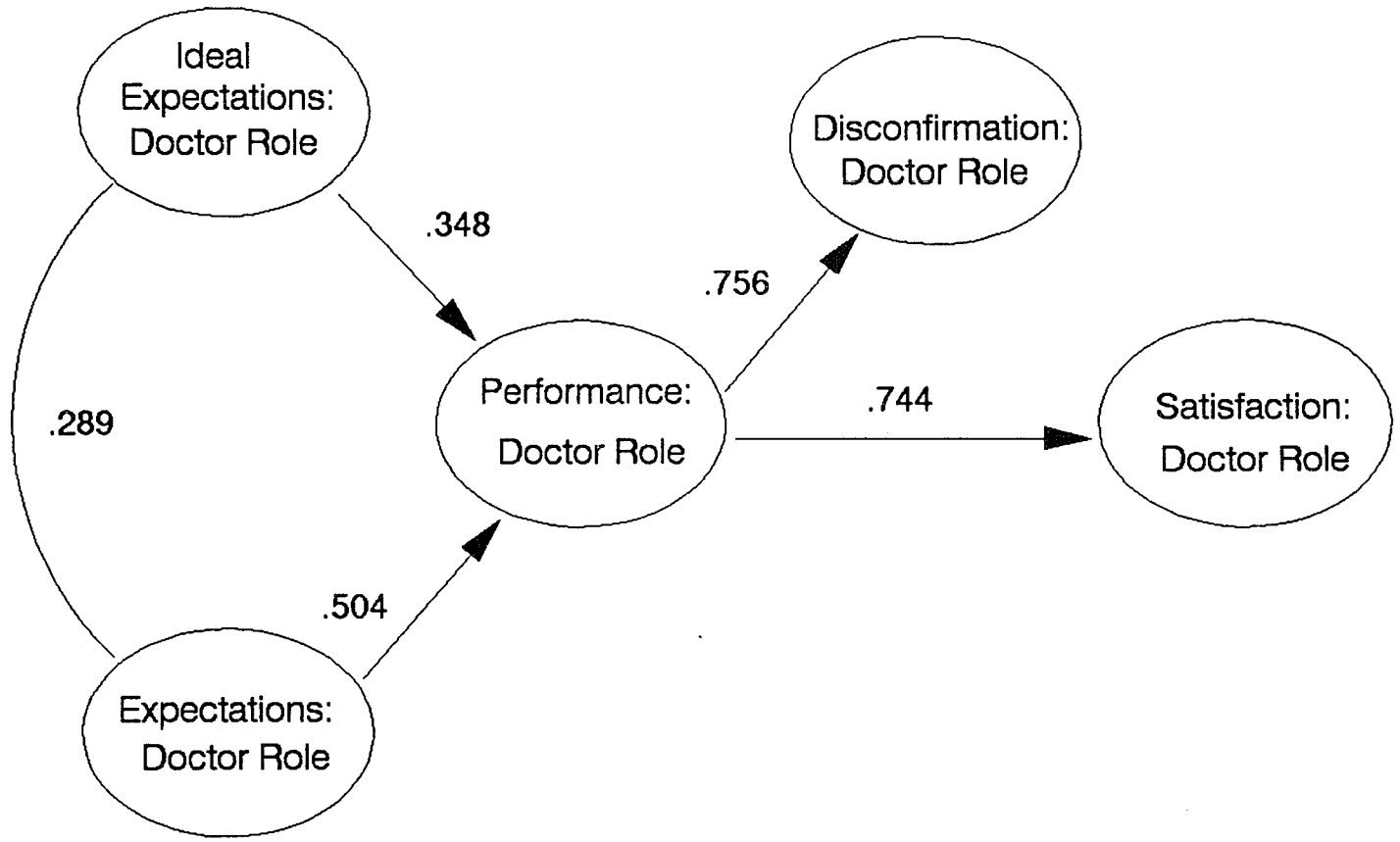


FIGURE 4.20
Doctor Submodel: High Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
CONSTRAINING PERFORMANCE --> SATISFACTION TO BE EQUAL

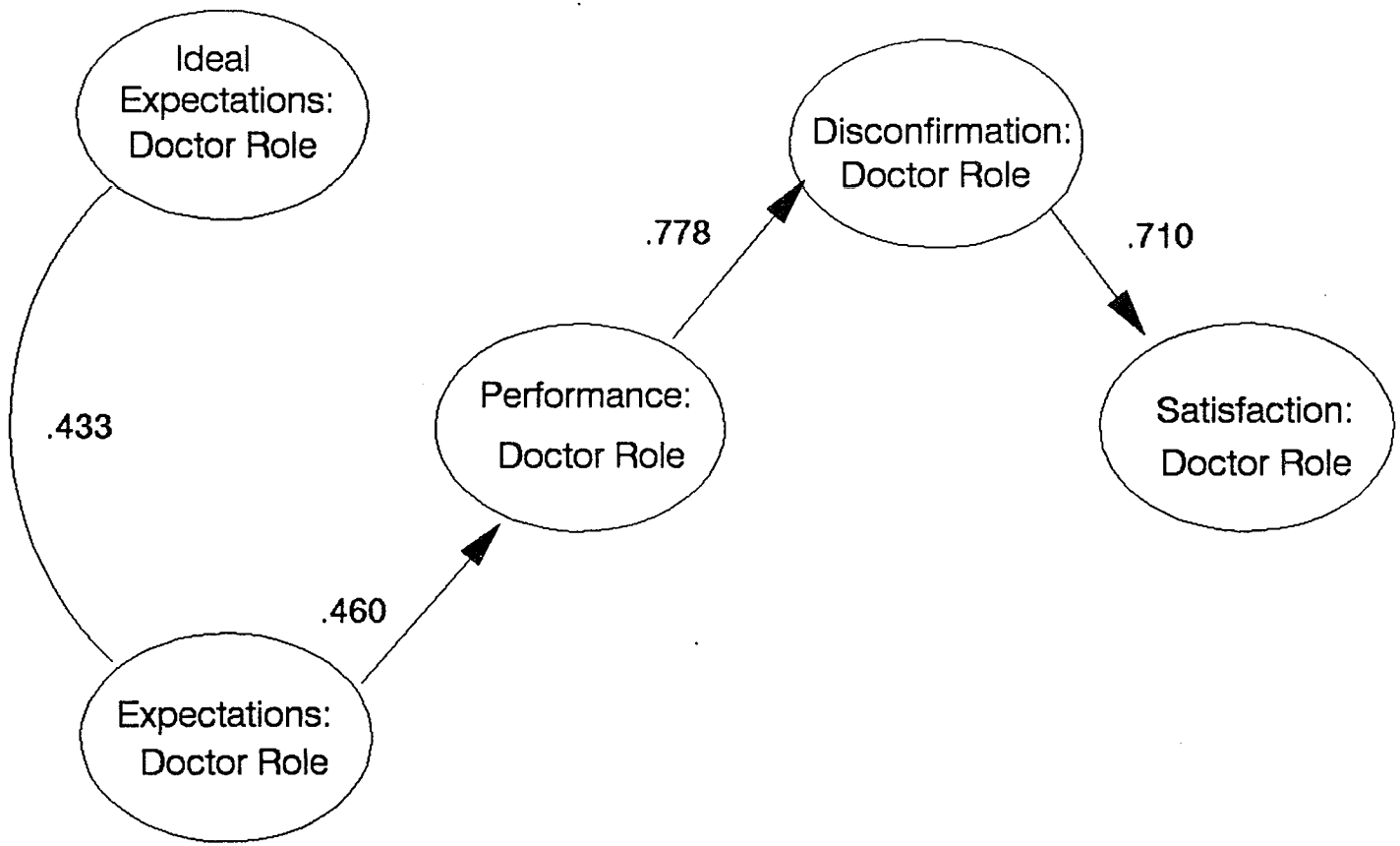


Table 4.23

Doctor Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Constraining Disconfirmation to Satisfaction to be Equal

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.348* (3.07)	.215 (1.62)
H2:	Expectations to Performance	.504** (4.42)	.463** (3.49)
H3:	Performance to Disconfirmation	.756*** (7.28)	.763*** (7.42)
H4:	Expectations to Satisfaction	-.071 (-.65)	.000 (.000)
H5:	Performance to Satisfaction	.738** (4.59)	.558** (3.95)
H6:	Disconfirmation to Satisfaction	.197 (1.40)	.348* (2.49)
Model Fit			
Chi-square		13.03	
(df)		7	
Prob.		.291	
Chi-square difference		.41	
(df)		1	

*, **, ***, significant at .05, .01, and .001, respectively.

Effects of Involvement on Staff Satisfaction Submodel

To assess the impact of involvement on the staff satisfaction submodel, multi-sample analyses were again performed. Table 4.24 contains the standardized structural parameter estimates for the high and low involvement groups when the model was unconstrained. Figures 4.21 and 4.22 show the significant parameter estimates of the unconstrained model for the two involvement samples.

In Table 4.24 and Figures 4.21 and 4.22, we can see that the major difference between the staff submodels based on high and low involvement samples was that performance was the only significant predictor of satisfaction for the low involvement sample and disconfirmation was the only predictor of satisfaction for the high involvement sample.

Table 4.24

Staff Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Unconstrained Model

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.161 (1.47)	-.161 (-.97)
H2:	Expectations to Performance	.682*** (6.16)	.646** (3.93)
H3:	Performance to Disconfirmation	.839*** (8.21)	.830*** (7.97)
H4:	Expectations to Satisfaction	-.065 (-.38)	.157 (1.08)
H5:	Performance to Satisfaction	.958** (3.24)	.230 (.816)
H6:	Disconfirmation to Satisfaction	.064 (.251)	.608* (2.27)
Model Fit			
Chi-square		9.12	
(df)		60	
Prob.		.167	

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.21
Staff Submodel: Low Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
UNCONSTRAINED MODEL

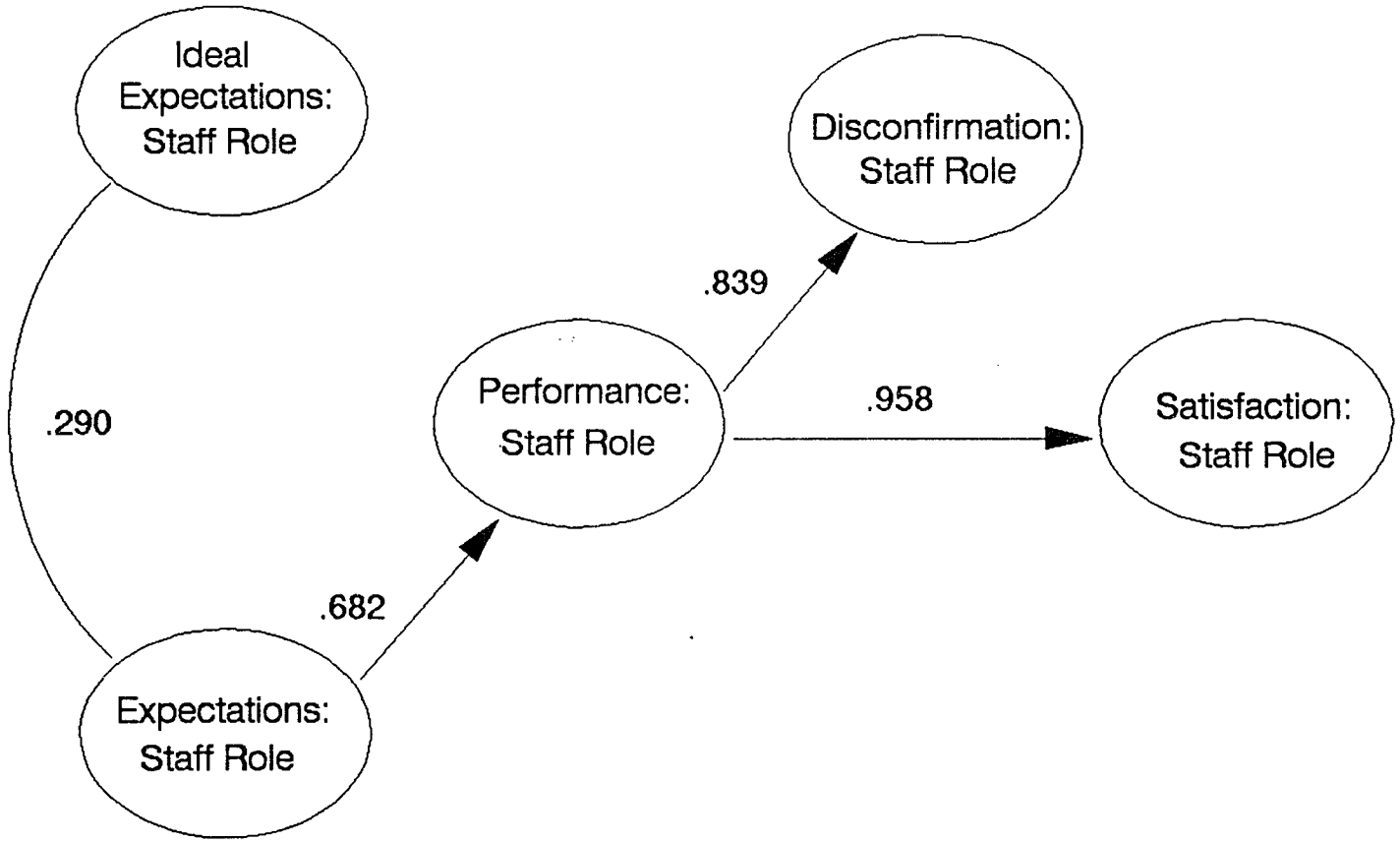
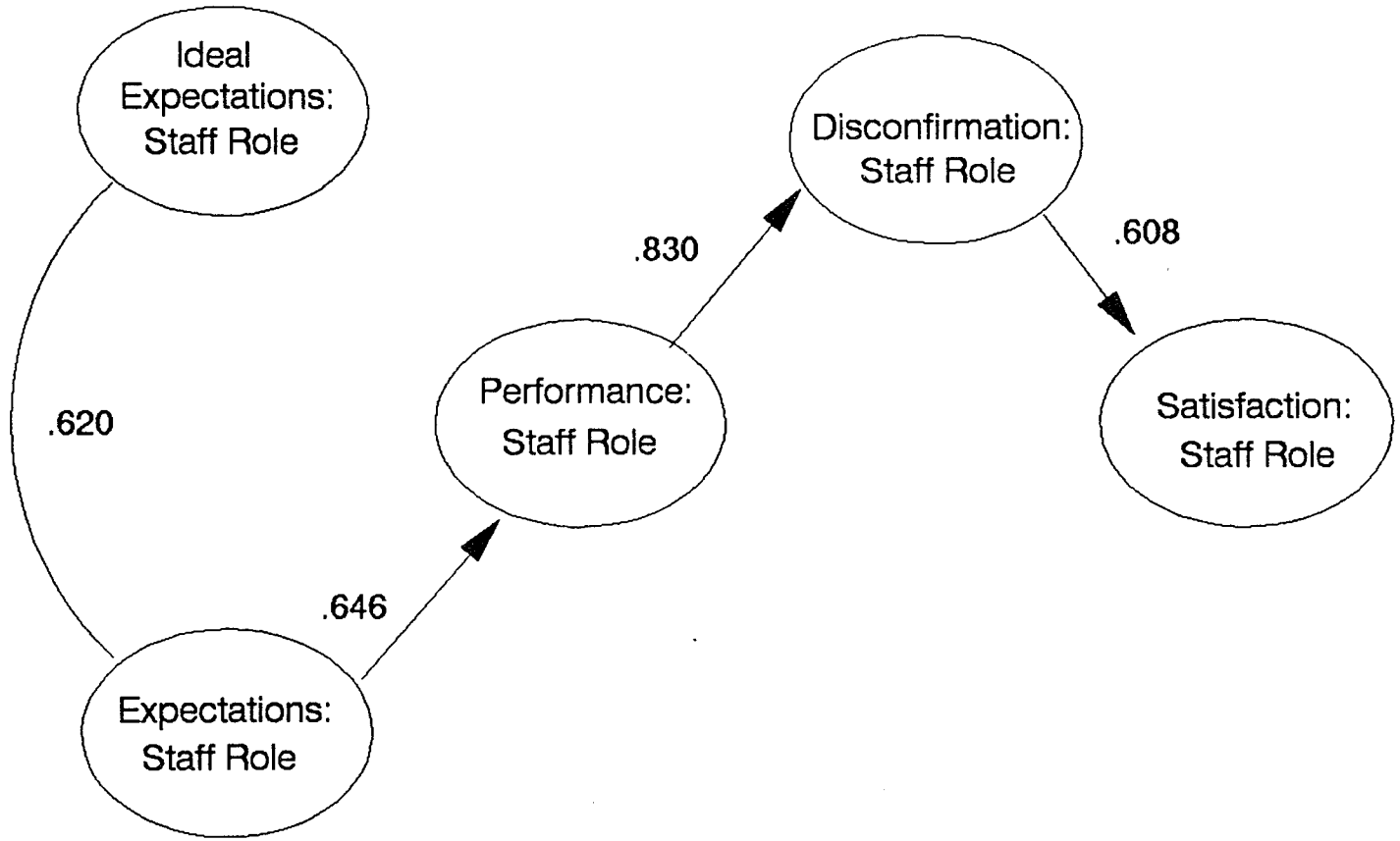


FIGURE 4.22
Staff Submodel: High Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
UNCONSTRAINED MODEL



As with the other submodels, the staff satisfaction submodel was reestimated three more times, constraining the parameters between expectations and satisfaction, performance and satisfaction, and disconfirmation and satisfaction to be equal between the high and low involvement groups. Results from the multi-sample analyses with constrained parameters for the staff submodel are presented in Tables 4.25, 4.26, 4.27.

As indicated in Tables 4.24, 4.25, and 4.26, when the unconstrained model (Table 4.24) is compared to the models constraining the parameter between expectations and satisfaction (Table 4.25) and the parameter between performance and satisfaction (Table 4.26), no significant differences were found. In all three models, performance was the only significant predictor of satisfaction for the low involvement sample and disconfirmation was the only predictor of satisfaction for the high involvement sample. When the unconstrained model (Table 4.24) is compared to the model where the parameter between disconfirmation and satisfaction was constrained (Table 4.27), a significant difference was found. The chi-square difference was significant at the .05 level. When one examines the patterns of relationships, we see that for this constrained model performance was the only significant predictor of satisfaction for both involvement samples.

Table 4.25

Staff Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Constraining Expectations to Satisfaction to be Equal

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.161 (1.47)	-.167 (-1.0)
H2:	Expectations to Performance	.682*** (6.16)	.658** (4.01)
H3:	Performance to Disconfirmation	.839*** (8.21)	.830*** (7.97)
H4:	Expectations to Satisfaction	-.065 (-.38)	.000 (.000)
H5:	Performance to Satisfaction	.958** (3.24)	.347 (1.31)
H6:	Disconfirmation to Satisfaction	.064 (.251)	.580* (2.16)
Model Fit			
Chi-square (df) Prob.		10.26 7 .174	
Chi-square difference (df)		1.14 1	

*, **, ***, significant at .05, .01, and .001, respectively.

Table 4.26

Staff Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Constraining Performance to Satisfaction to be Equal

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.161 (1.47)	-.153 (-.93)
H2:	Expectations to Performance	.682*** (6.16)	.643** (3.90)
H3:	Performance to Disconfirmation	.840*** (8.18)	.837*** (8.17)
H4:	Expectations to Satisfaction	-.065 (-.38)	.201 (1.46)
H5:	Performance to Satisfaction	.958** (3.24)	.000 (.000)
H6:	Disconfirmation to Satisfaction	.064 (.251)	.793*** (5.49)
Model Fit			
Chi-square (df) Prob.		9.75 7 .203	
Chi-square difference (df)		.63 1	

*, **, ***, significant at .05, .01, and .001, respectively.

Table 4.27

Staff Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Constraining Disconfirmation to Satisfaction to be Equal

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.162 (1.47)	-.182 (-1.1)
H2:	Expectations to Performance	.683*** (6.16)	.660** (4.03)
H3:	Performance to Disconfirmation	.838*** (8.21)	.847*** (8.35)
H4:	Expectations to Satisfaction	-.065 (-.38)	.124 (.808)
H5:	Performance to Satisfaction	.957** (3.24)	.784*** (4.98)
H6:	Disconfirmation to Satisfaction	.064 (.251)	.000 (.000)
Model Fit			
Chi-square		14.00	
(df)		7	
Prob.		.051	
Chi-square difference		4.88*	
(df)		1	

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.23
Staff Submodel: Low Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
CONSTRAINING DISCONFIRMATION --> SATISFACTION TO BE EQUAL

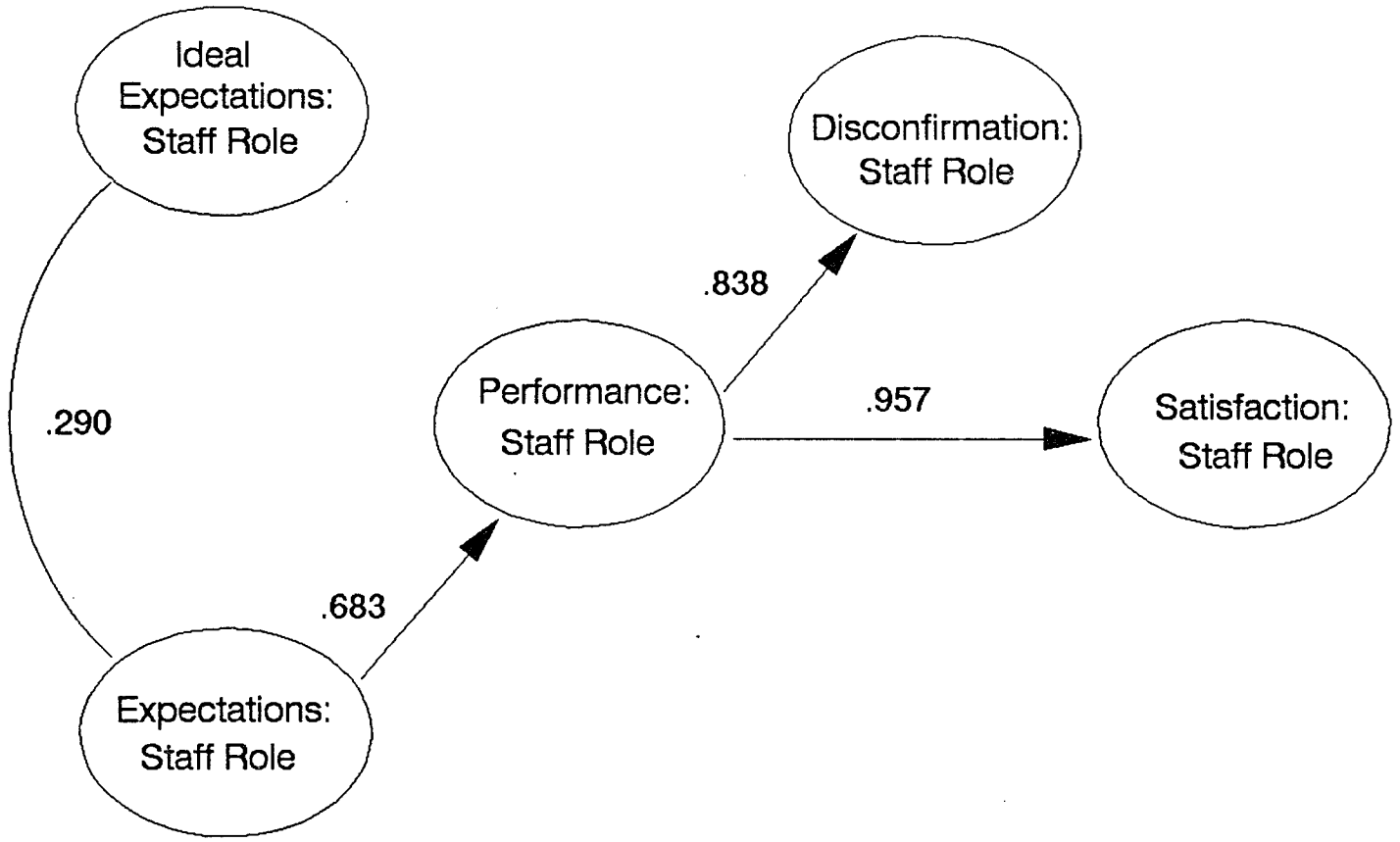
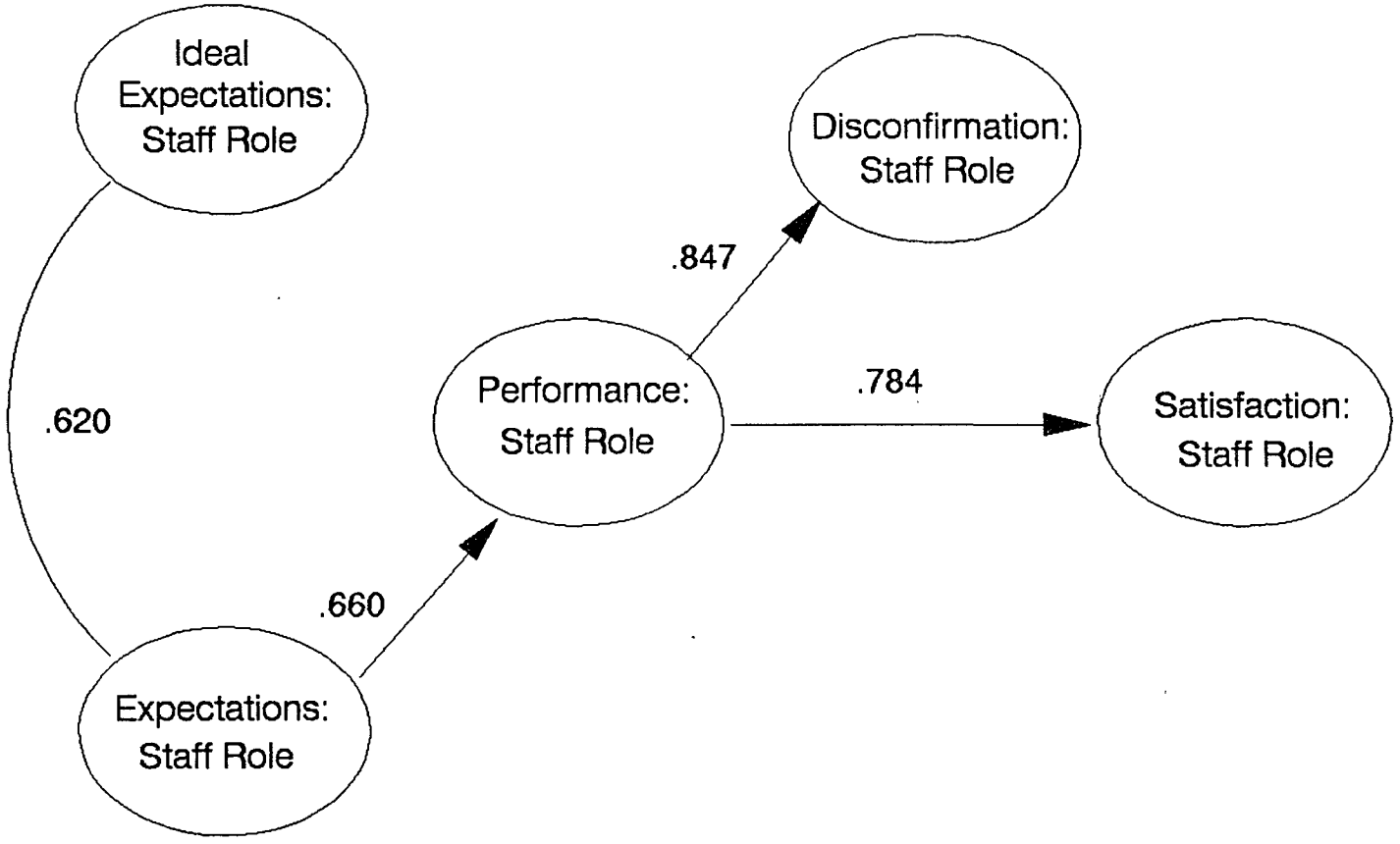


FIGURE 4.24
Staff Submodel: High Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
CONSTRAINING DISCONFIRMATION --> SATISFACTION TO BE EQUAL



Effects of Involvement on Access Mechanisms Submodel

A final test of the effects of involvement on the proposed structural model was conducted for the access mechanisms submodel. Results for the unconstrained access mechanisms submodel are presented in Table 4.28 and Figures 4.25 and 4.26.

From Table 4.28 and Figures 4.25 and 4.26, we can note a number of differences between the involvement samples. For the low involvement sample, performance was the only significant predictor of satisfaction. For the high involvement sample, expectations and disconfirmation were both significant predictors of satisfaction.

In contrast to what was found for the doctor and patient submodels, ideal expectations for the access mechanisms submodel exerted a significant influence on performance under conditions of high involvement. Involvement was not hypothesized to influence the relationship between ideal expectations and performance. This relationship was relatively weak (parameter estimate $< .30$).

Table 4.28

Access Mechanisms Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Unconstrained Model

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.113 (.900)	.286* (2.34)
H2:	Expectations to Performance	.715** (5.60)	.655** (5.34)
H3:	Performance to Disconfirmation	.600** (4.30)	.585** (4.16)
H4:	Expectations to Satisfaction	.235 (1.17)	.550* (2.87)
H5:	Performance to Satisfaction	.617* (2.50)	-.170 (-.73)
H6:	Disconfirmation to Satisfaction	.077 (.493)	.511** (3.30)
Model Fit			
Chi-square		18.18	
(df)		6	
Prob.		.006	

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.25
Access Mechanisms Submodel: Low Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
UNCONSTRAINED MODEL

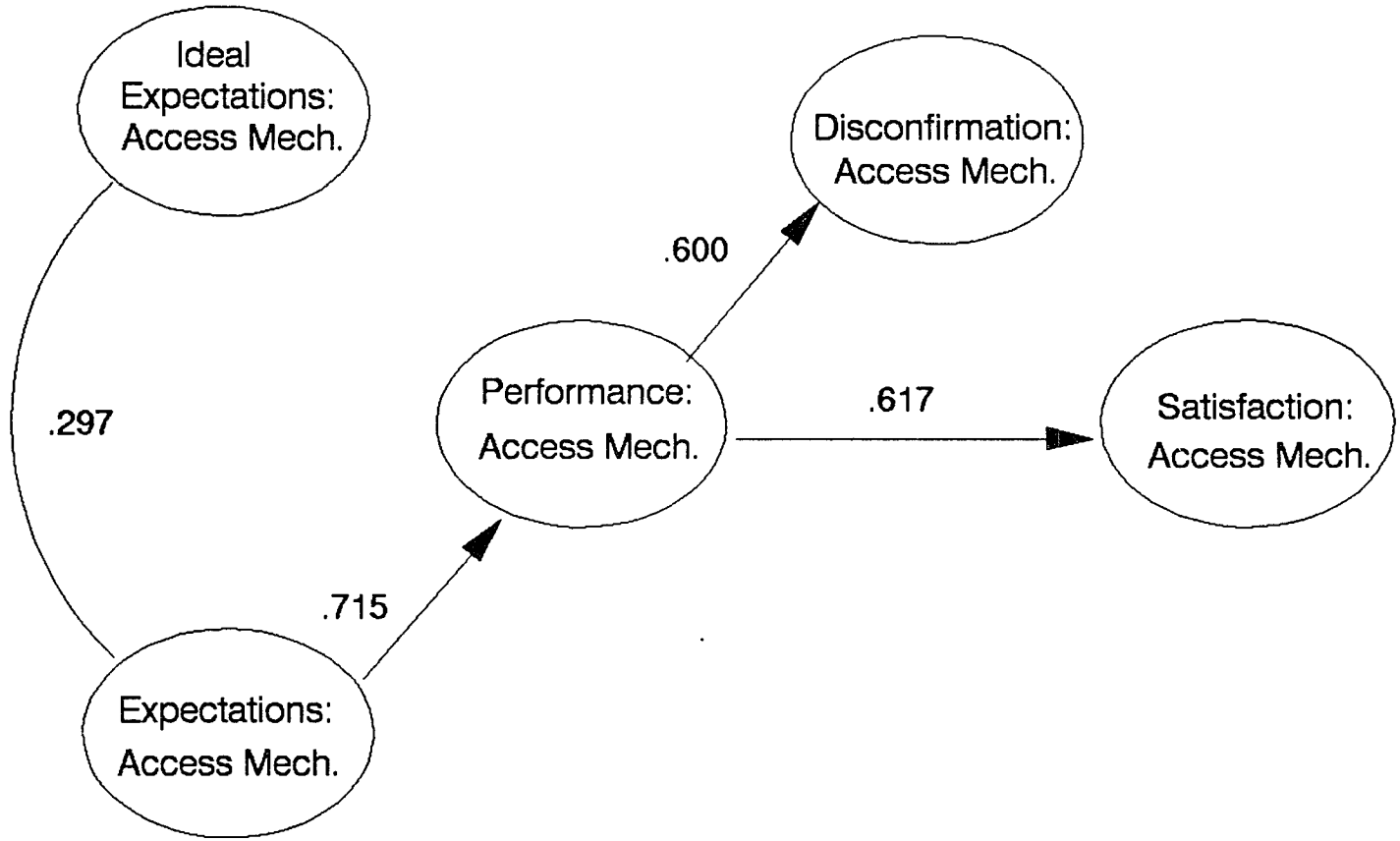
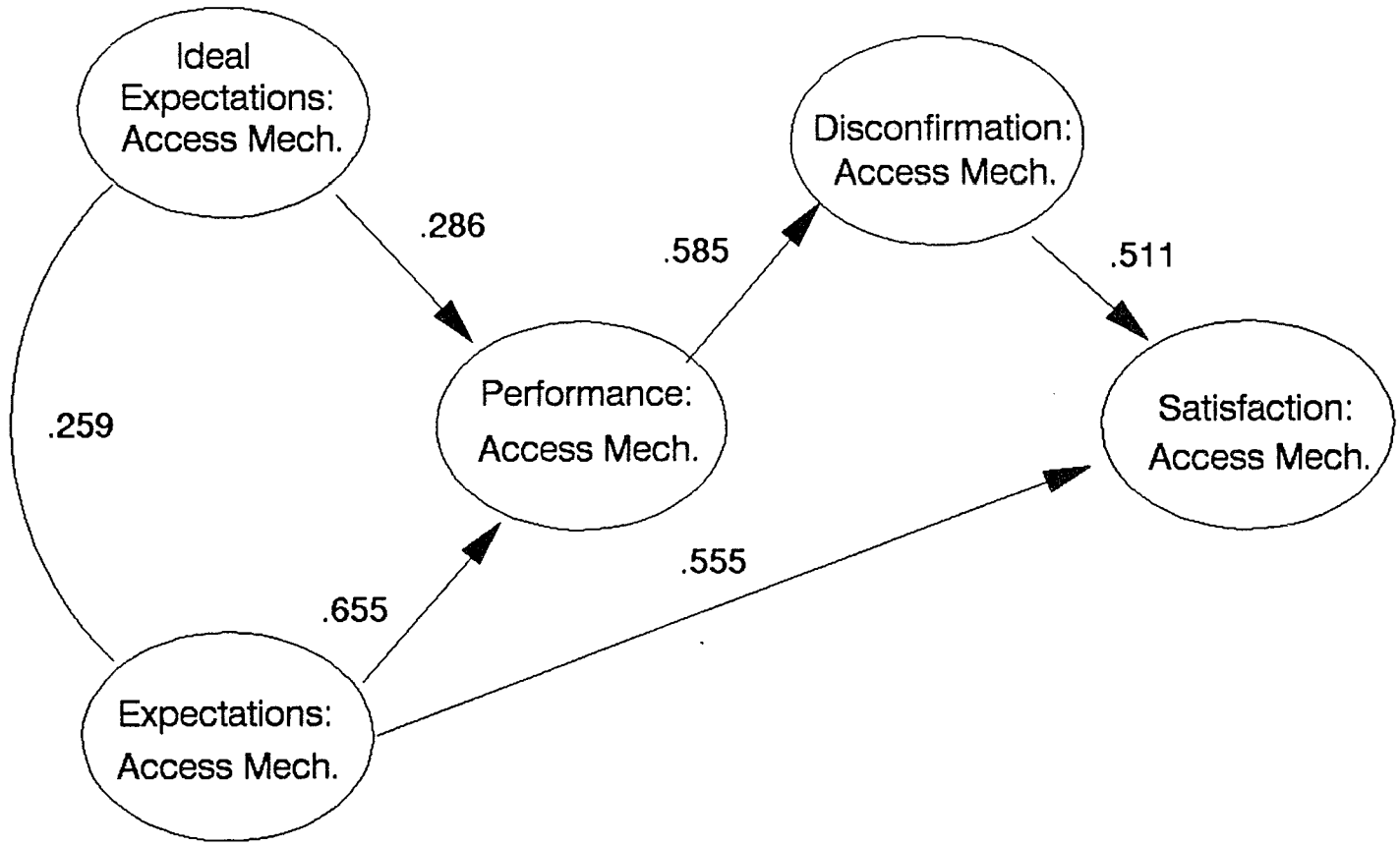


FIGURE 4.26
Access Mechanisms Submodel: High Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
UNCONSTRAINED MODEL



As a final stage in the analyses, the access mechanisms satisfaction submodel was reestimated three more times, constraining the parameters between expectations and satisfaction, performance and satisfaction, and disconfirmation and satisfaction to be equal between the high and low involvement groups. The results of these multi-sample analyses are presented in Tables 4.29, 4.30, and 4.31.

Significant differences were found across involvement samples for the relationship between expectations and satisfaction and between disconfirmation and satisfaction. Expectations and disconfirmation were significant predictors of satisfaction with the access mechanisms for the high involvement sample but not for the low involvement sample. This finding is consistent with findings for the doctor and staff submodels.

Table 4.29

Access Mechanisms Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Constraining Expectations to Satisfaction to be Equal

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.113 (.900)	.251* (2.07)
H2:	Expectations to Performance	.716** (5.60)	.677** (5.54)
H3:	Performance to Disconfirmation	.600** (4.30)	.589** (4.19)
H4:	Expectations to Satisfaction	.230 (1.17)	.000 (0.00)
H5:	Performance to Satisfaction	.604* (2.50)	.228 (1.37)
H6:	Disconfirmation to Satisfaction	.075 (.493)	.592** (3.65)
Model Fit			
Chi-square		25.57	
(df)		7	
Prob.		.001	
Chi-square difference		7.39**	
(df)		1	

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.27
Access Mechanisms Submodel: Low Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
CONSTRAINING EXPECTATIONS --> SATISFACTION TO BE EQUAL

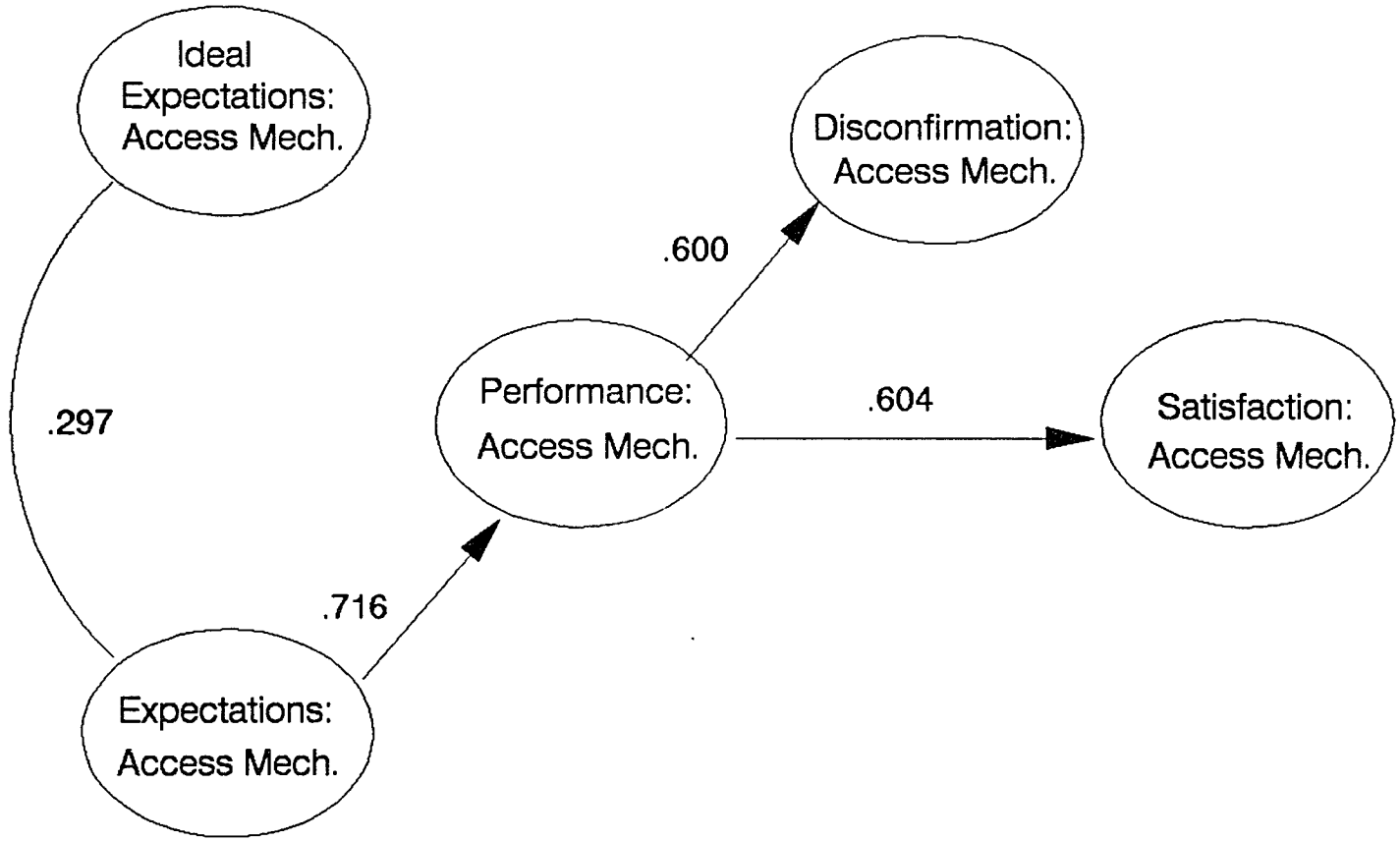


FIGURE 4.28

Access Mechanisms Submodel: High Involvement Sample

SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
CONSTRAINING EXPECTATIONS --> SATISFACTION TO BE EQUAL

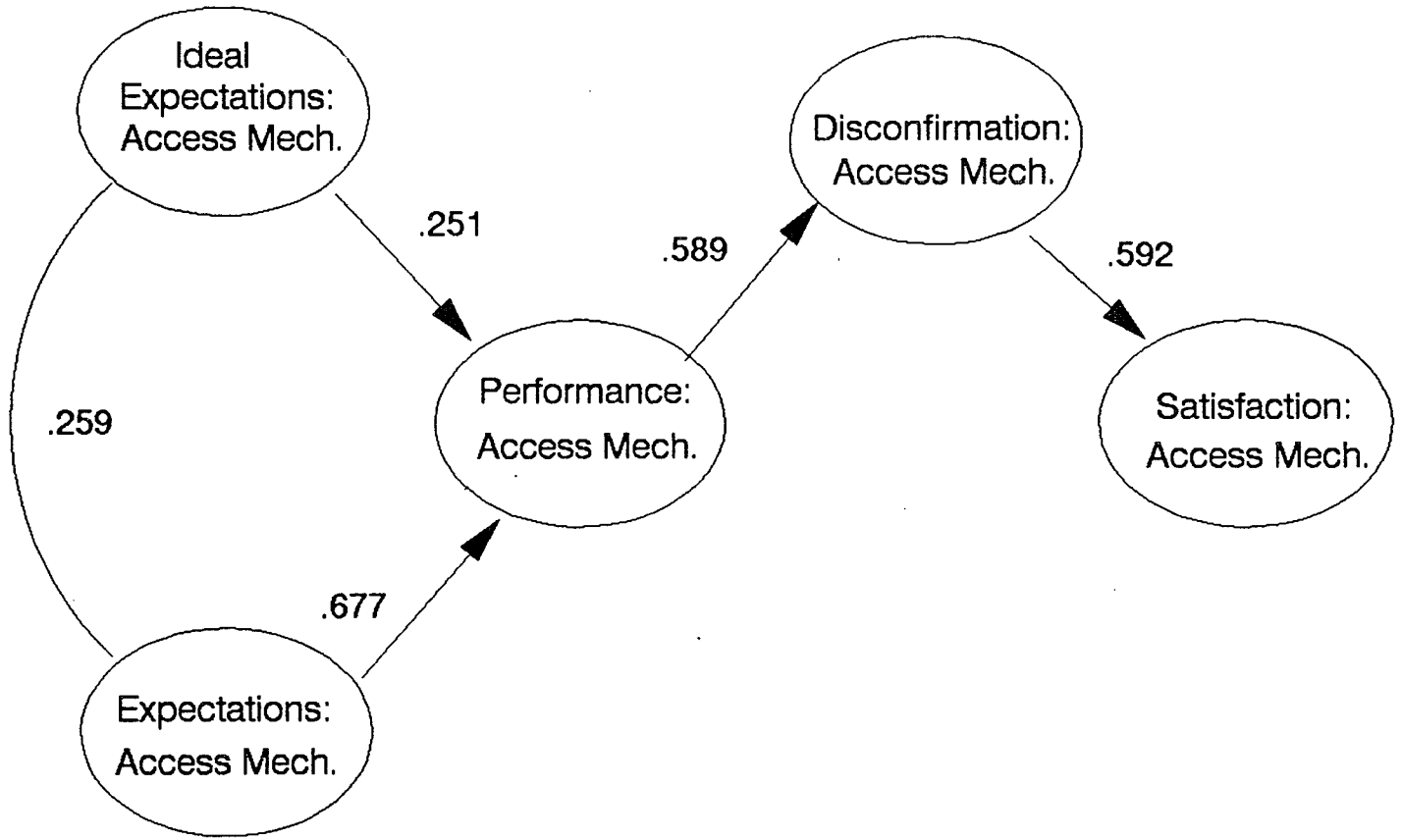


Table 4.30

Access Mechanisms Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Constraining Performance to Be Equal

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.113 (.900)	.278* (2.25)
H2:	Expectations to Performance	.715** (5.60)	.652** (5.28)
H3:	Performance to Disconfirmation	.601** (4.30)	.580** (4.11)
H4:	Expectations to Satisfaction	.234 (1.17)	.448** (3.45)
H5:	Performance to Satisfaction	.615* (2.50)	.000 (.000)
H6:	Disconfirmation to Satisfaction	.076 (.493)	.467** (3.56)
Model Fit			
Chi-square (df) Prob.		18.82 7 .009	
Chi-square difference (df)		.64 1	

*, **, ***, significant at .05, .01, and .001, respectively.

Table 4.31

Access Mechanisms Satisfaction Submodel
Standardized Structural Parameter Estimates
and T-Values for Involvement Groups
Constraining Disconfirmation to Satisfaction to be Equal

Proposed Relationships (Parameters and T-Values)		Low Inv.	High Inv.
H1:	Ideal expectations to Performance	.113 (.900)	.276* (2.26)
H2:	Expectations to Performance	.715** (5.60)	.658** (5.35)
H3:	Performance to Disconfirmation	.600** (4.30)	.595** (4.25)
H4:	Expectations to Satisfaction	.230 (1.17)	.678** (3.28)
H5:	Performance to Satisfaction	.605* (2.50)	.058 (.269)
H6:	Disconfirmation to Satisfaction	.075 (.493)	.000 (.000)
Model Fit			
Chi-square (df) Prob.		27.83 7 .000	
Chi-square difference (df)		9.65*** 1	

*, **, ***, significant at .05, .01, and .001, respectively.

FIGURE 4.29
Access Mechanisms Submodel: Low Involvement Sample
SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
CONSTRAINING DISCONFIRMATION --> SATISFACTION TO BE EQUAL

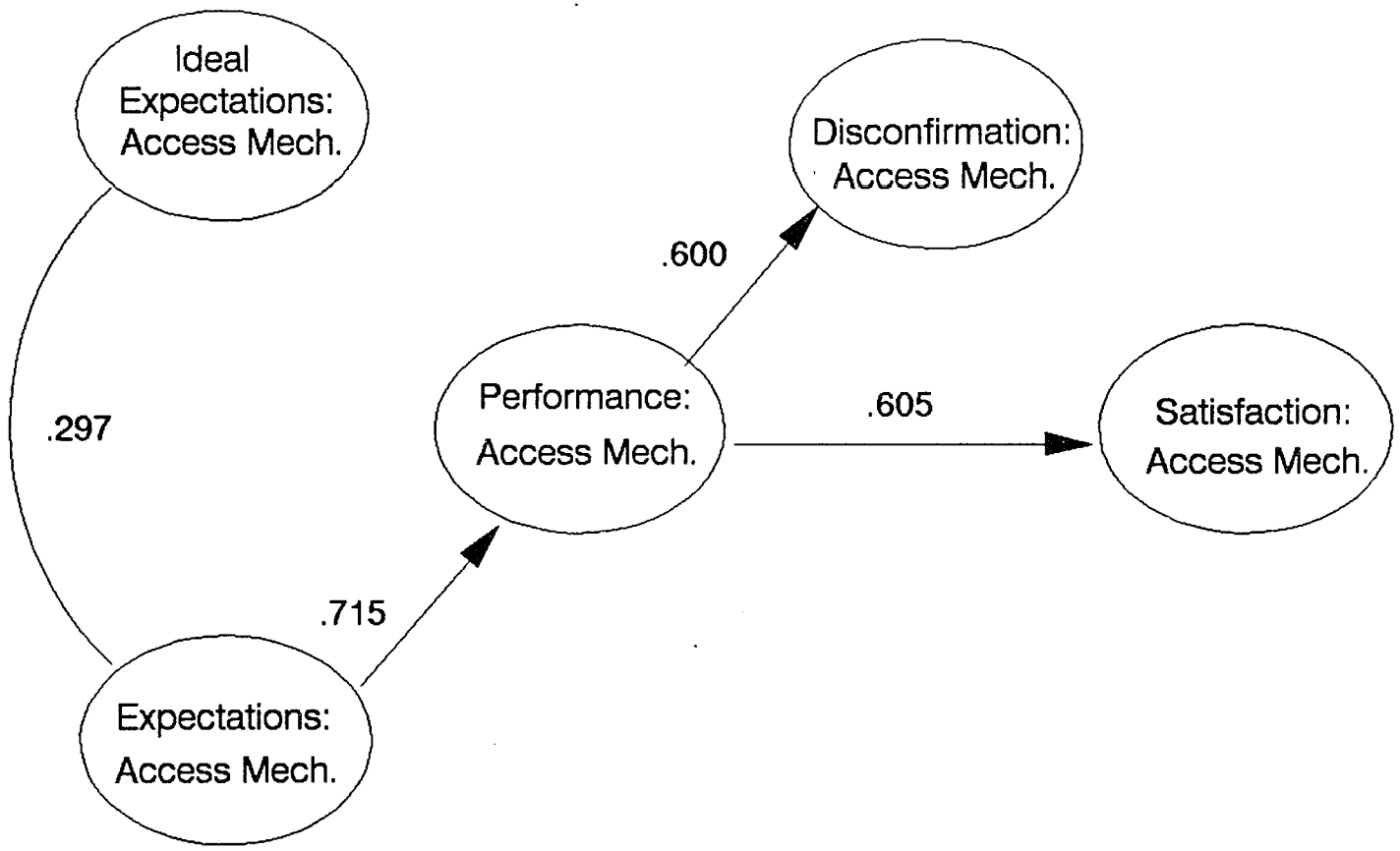
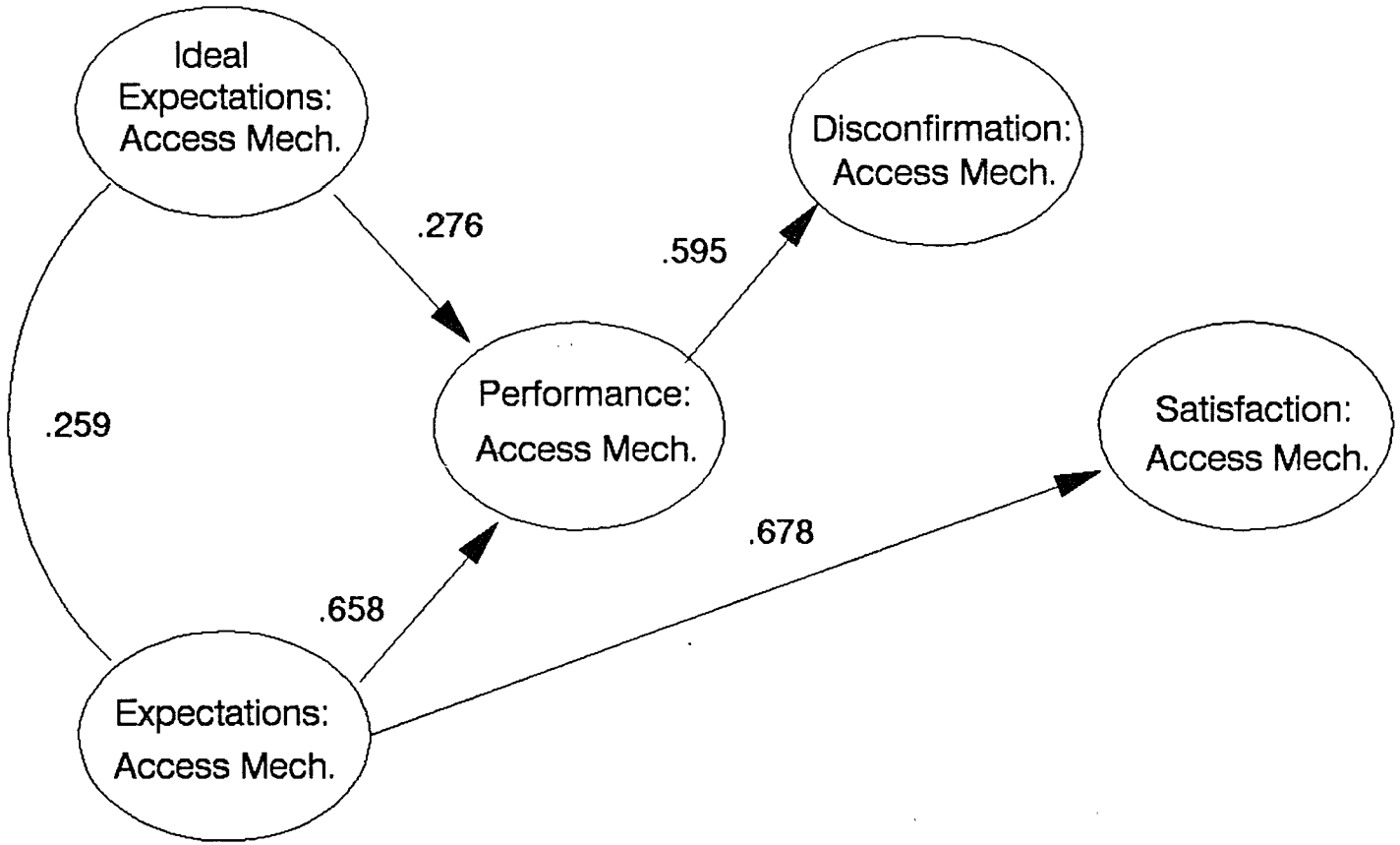


FIGURE 4.30

Access Mechanisms Submodel: High Involvement Sample

SIGNIFICANT STANDARDIZED STRUCTURAL PARAMETER ESTIMATES
CONSTRAINING DISCONFIRMATION --> SATISFACTION TO BE EQUAL



Summary of Findings Regarding the Influence of Involvement

Table 4.32 provides a summary of the significant differences found across involvement samples for each of the submodels. For three submodels (patient, staff, and access mechanisms) a significant difference across involvement groups was found for the relationship between disconfirmation and satisfaction. In the case of the patient submodel, the difference was that performance was the only significant predictor of satisfaction under conditions of high involvement and disconfirmation was the only predictor of satisfaction under conditions of low involvement.

For the staff and access mechanisms submodels, the differences detected across involvement samples were that under conditions of high involvement, expectations and/or disconfirmation was (were) the strongest predictor(s) of satisfaction. Under conditions of low involvement, performance was the strongest predictor of satisfaction.

A significant difference across involvement samples was found for the relationship between performance and satisfaction for the doctor's role. Performance was the only predictor of satisfaction for the low involvement sample and disconfirmation was the only predictor of satisfaction for the high involvement sample. Interpretation of the differences found in the submodels across involvement groups will be presented in Chapter Five.

Table 4.32

Summary of Significant Differences
Across Involvement Groups

	Significant Chi-Sq. Difference	Support for H7a and H7b
Patient Submodel	Yes	Yes
Doctor Submodel	Yes	No
Staff Submodel	Yes	No
Access Mechanisms Submodel	Yes	No

Summary of the Findings

Ideal Expectations and Performance Relationship

It was predicted that ideal expectations would exert a negative influence on performance (H1). Ideal expectations was significantly related to performance for the doctor's role. Although statistically significant, the parameter estimate for this relationship was relatively small (.25).

Expectations and Performance Relationship

It was predicted that expectations would exert a positive influence on performance (H2). This relationship was significant for all four submodels and for all tests (individual tests of the submodels and overall test).

Performance and Disconfirmation Relationship

Performance was hypothesized to exert a positive influence on

disconfirmation (H3). Again, this relationship was significant for all four submodels and for all tests (individual tests of the submodels and overall test).

Expectations and Satisfaction Relationship

Expectations was predicted to exert a positive influence on satisfaction (H4). A significant parameter estimate (.480) was found for the access mechanisms submodel when tested as an overall model of satisfaction.

Performance and Satisfaction Relationship

It was predicted that performance would exert a positive influence on satisfaction (H5). Performance was found to be a strong determinant of satisfaction for the doctor's role.

Disconfirmation and Satisfaction Relationship

It was hypothesized that disconfirmation would exert a positive influence on satisfaction (H6). For the individual submodel tests, the disconfirmation-satisfaction relationship was significant for the patient submodel only. For the overall test of the model, the relationship between disconfirmation and satisfaction was significant for all four submodels.

Satisfaction Relationships

Although not formally hypothesized, the relationship between overall satisfaction with the clinic and satisfaction with different dimensions of the service encounter was examined. Satisfaction with the doctor's role and satisfaction with the staff's role were found to be stronger predictors of patients' overall satisfaction with the clinic services than satisfaction with the convenience factors of the service.

Satisfaction with their own role as patients was found to be negatively related to overall satisfaction with the clinic. This will be discussed in detail in Chapter Five.

Influence of Involvement

It was hypothesized that the strength of the predictors of satisfaction would differ across involvement groups. Under conditions of high involvement, performance was predicted to be the strongest determinant of satisfaction (H7a). Under conditions of low involvement, expectations and disconfirmation were predicted to be the strongest determinants of satisfaction (H7b). These hypotheses were tested using a chi-square difference test produced from multi-sample LISREL analyses. Significant differences were found across involvement groups. For the patient submodel, the disconfirmation and satisfaction relationship was significantly different for the involvement groups. Satisfaction was predicted by performance for the high involvement group (H7a) and by disconfirmation for the low involvement group (H7b). For the doctor's role, significant differences between the involvement samples were found for the relationship between performance and satisfaction. Under conditions of high involvement, disconfirmation was the strongest predictor of satisfaction. Under conditions of low involvement, performance was the strongest predictor of satisfaction. Significant differences in the relationship between disconfirmation and satisfaction were found for the staff and access mechanisms submodels. Once again, performance was the significant predictor of satisfaction for the low involvement group and disconfirmation and/or expectations was(were) the significant predictor(s) for the high involvement group.

Table 4.33 reports summary results of the hypothesis tests for both individual submodel and overall model analyses.

Table 4.33

Summary of Tests of Hypotheses
For Individual Submodel Tests
and Overall Model Test

Hypothesis	Submodel Tests	Overall Model Test
H1	Partial Support	Partial Support
H2	Confirmed	Confirmed
H3	Confirmed	Confirmed
H4	Rejected	Partial Support
H5	Partial Support	Partial Support
H6	Partial Support	Confirmed
H7a	Partial Support	Not Tested
H7b	Partial Support	Not Tested

CHAPTER FIVE

Conclusions, Implications, and Recommendations for Future Research

Chapter Five first summarizes the results of the dissertation research and then its limitations. Implications of the research and recommendations for future research are presented in the final section.

Conclusions

This dissertation attempted to address five research questions:

1. What is the relative influence of expectations, performance, and disconfirmation on consumer satisfaction with professional services?

2. What is the relative influence of role based and non-role based dimensions (access mechanisms) of a professional service on satisfaction formation?

3. How does consumers' satisfaction with their own role influence their satisfaction with professional services?

4. Do consumers use multiple comparison standards in the evaluation of professional services?

5. Does consumer involvement have a mediating influence on satisfaction formation for professional services?

What is the Relative Influence of Expectations, Disconfirmation and Performance on Satisfaction Formation?

Previous research has focused on investigating the relative effects of expectations, disconfirmation, and perceived performance on product satisfaction (Churchill and Surprenant 1982; Tse and Wilton 1988). Findings from these studies suggest that expectations exerts both a direct and indirect (through perceived performance) effect on satisfaction; performance also exerts a direct and indirect

(through disconfirmation) influence on satisfaction; and disconfirmation exerts a direct influence on satisfaction. This study extended previous satisfaction research by examining the relative influence of expectations, performance, and disconfirmation on satisfaction formation in the context of professional services.

Some of the findings in this research are consistent with prior research findings, while others are inconsistent. In the overall test of the model, expectations was found to exert both a direct and indirect effect on satisfaction with access mechanisms. For the other submodels, expectations did not have a direct influence on satisfaction. Instead, the influence of expectations on satisfaction was indirect through perceived performance. In the individual tests of the submodels, perceived performance had a direct impact on satisfaction for the doctor submodel only. For the patient submodel, the effect of performance on satisfaction was indirect through disconfirmation. For the overall test of the model, perceived performance had a direct impact on satisfaction with the doctor's role and an indirect impact (through disconfirmation) on patients' satisfaction with their own role, with the staff's role and with the access mechanisms. When the submodels were tested individually, disconfirmation had a direct influence on satisfaction with the patient's role. In the overall test of the model, disconfirmation had a direct, although sometimes weak, influence on satisfaction for all four submodels.

One of the most crucial issues that needs clarification is why the discrepancy is found between the models for the patient's role, the doctor's role, the staff's role and access mechanisms. Why is performance a significant predictor of satisfaction

for the doctor's submodel only? This linkage has been supported in recent satisfaction research (Churchill and Surprenant 1982; Tse and Wilton 1988), so why was only moderate support for the direct linkage between performance and satisfaction found in this research? Why does the disconfirmation paradigm perform reasonably well in some submodels and not in others?

One explanation for the differential impact of performance and disconfirmation on satisfaction formation is that the evaluative processes differ across the various dimensions of the service. Churchill and Surprenant (1982) report differences in satisfaction formation for durable and nondurable products. They suggest that one explanation for these differences is that "for durable products performance differences (if present) are the major determinant of satisfaction, and conversely that the disconfirmation of initial expectations has little impact" (Churchill and Surprenant 1982, pp. 503). Perhaps satisfaction formation also differs across service dimensions. Like durable products, satisfaction with the primary service provider, in this case the doctor, is determined largely by the doctor's performance.

A second explanation for the contradictory findings regarding the impact of perceived performance on satisfaction formation relates to methodological differences between this study and other satisfaction studies. In both of the studies that found support for the independent effects of performance on satisfaction, performance was first manipulated in an experimental setting and then perceptions of performance were measured (Churchill and Surprenant 1982; Tse and Wilton 1988).

In this study, performance was not manipulated, rather patients' perceptions of actual service performance in a real-world setting were measured. Tse and Wilton (1988) speculate that the strength of the product manipulation in their study and in Churchill and Surprenant's (1982) study, may at least partially explain why performance, in contrast to the traditional research findings, dominates all other determinants in predicting consumer satisfaction/dissatisfaction. Thus, some of the association between performance and satisfaction reported in these two studies may reflect demand characteristics. This would explain why their findings regarding performance were not replicated entirely in this research.

A third explanation for the results presented here is an explanation that was also offered by Churchill and Surprenant (1982) to explain their findings regarding the role of performance in satisfaction formation. This explanation involves measures. These researchers found high correlations between the performance and satisfaction measures for the durable product with some between-construct correlations higher than the within-construct correlations. As the reader will recall, this is the data from which Churchill and Surprenant (1982) report performance to be the only significant predictor of satisfaction. They are not the only researchers who report high correlations between performance and other constructs. Swan and Trawick (1980) also found high correlations between performance and satisfaction. Tse and Wilton (1988) found perceived performance to be highly correlated with subjective disconfirmation ($r^2 = .73$). As was discussed in Chapter Four, performance measures in this study were also highly correlated with other measures,

particularly disconfirmation.

Since performance has been found to be highly correlated with other constructs in a number of studies including this dissertation, a natural question is whether perceived performance is a distinct construct. Conceptually performance may be different from disconfirmation and satisfaction, but perceptually performance may be one and the same. In other words, researchers may conceptually define performance as a distinct construct but do consumers perceive performance to be distinct from prior expectations?

Perhaps performance is a distinct construct. The question then becomes have we been successful in developing valid measures of performance? Both Churchill and Surprenant (1982) and Tse and Wilton (1988) admit that some of their measures were troublesome. Churchill and Surprenant (1982, p.500) report that "the evidence on the convergent and discriminant validity of the measures [for the video disc player] is not as strong as it is with the plant data". They also question whether "in, spite of conceptual differences between the constructs, are our operationalizations likely to share method variance?" (Churchill and Surprenant 1982, p. 503). Tse and Wilton (1988) voice a similar concern:

> The r^2's reported here are higher than those in other studies (e.g. Bearden and Teel 1983; Oliver 1980) suggesting the possibility of common methods variance in the measures. Though the discriminant validity results for comparison standards reported before suggest this is unlikely, the issue can be explored further by applying the multi-trait, multi-method procedure to the other measures [which they did not do for performance] (Tse and Wilton 1988, p. 210).

To conduct a valid test of the relative effects of expectations,

disconfirmation, and performance on satisfaction, one must first have reliable and valid measures. It is questionable whether there is strong evidence on the discriminant validity of the previously employed performance measures. In this research, evidence of discriminant validity for the performance measures was weak. Like the previous studies, it is also suspected that the operationalizations in this study share method variance. One must question whether the direct influence of performance on satisfaction previously documented represents a true relationship. Or is the effect of performance on satisfaction an artifact of shared method variance and/or invalid measurements? The items purported to measure performance may have been measuring disconfirmation, satisfaction, or some other theoretical construct.

Further Investigation of the Influence of Performance on Satisfaction

To further investigate the influence of performance on satisfaction in this research, the structural models for each of the four submodels were reestimated eliminating the performance construct. The incremental change in the chi-square value was not significant ($p < .01$) for three of four submodels: patient, doctor, and staff (see Appendix B for results of this analysis). This suggests that including the performance parameter did not significantly improve the fit of these structural submodels. Only slight drops in the explained variance (R^2's) of the satisfaction constructs were noted when these structural models were reestimated without performance. There was a significant chi-square difference when performance was dropped for the access mechanisms submodel. However, there was only a slight

drop in the explained variance of the satisfaction construct. Thus, the traditional disconfirmation model appears to be nearly as predictive and much more parsimonious than the full model with performance as a distinct construct.

Expectations and Disconfirmation Relationship

Contrary to the findings of Oliver (1977, 1980) and Tse and Wilton (1988) who found no correlation between perceived expectations and disconfirmation, Churchill and Surprenant (1982) found a statistically significant negative correlation between expectations and disconfirmation in the plant experiment and a positive but nonsignificant correlation in the video disc experiment. In this research, large residuals and significant pairwise correlations between expectations and disconfirmation suggested a direct linkage between these constructs. This relationship was explored post-hoc when the models were reestimated dropping performance as described in the previous section.

The direct linkage between expectations and disconfirmation was significant and positive for the doctor, staff, and access mechanisms submodels (parameter estimates $>$ .50). For the patient submodel, the relationship was positive (parameter estimate = .29) but nonsignificant.

The nonsignificance of the relationship between expectations and disconfirmation for the patient submodel may be partially explained by the lack of variability in the disconfirmation measures. The most common response to the disconfirmation questions for the patient's role was neutral: they behaved as expected. There was much more variability in patient responses to the expectations

questions. When the shapes of the distributions for two variables differ, the size of the correlation can be restricted (Nunnally 1978, p. 141). The shapes of the distributions for expectations and disconfirmation were similar in all the submodels but the patient submodel. Perhaps this is why we do not see a significant relationship between expectations and disconfirmation for the patient submodel.

When the submodels were reestimated without performance, ideal expectations was correlated with expectations but did not have significant impact on disconfirmation or satisfaction.

Support for the Traditional Disconfirmation Paradigm

When the models were reestimated dropping performance, disconfirmation exerted a direct and positive effect on satisfaction with the patient's role (parameter estimate = .593), satisfaction with the doctor's role (parameter estimate = .656) and satisfaction with the staff's role (parameter estimate = .747). Satisfaction was also indirectly (through disconfirmation) influenced by expectations for the patient, doctor and staff submodels. These findings are fairly consistent with the traditional disconfirmation paradigm. For the access mechanisms submodel, satisfaction was determined by expectations alone (parameter estimate = .507). The influence of disconfirmation on satisfaction with access mechanisms was positive (parameter estimate = .29) but nonsignificant.

Why the inconsistency between the access mechanisms model and the other submodels? One explanation is that satisfaction formation differs for behavioral and nonbehavioral dimensions of the service. Another explanation relates to the design

of the study. It was not possible to measure expectations prior to the clinic encounter. As described in Chapters Three and Four, expectations were measured while the patients waited to see the doctor. All patients were surveyed before they interacted with the doctor, nurses, and technicians so expectations and performance were not measured simultaneously for these dimensions of the service. This was not true for access mechanisms. Patients were asked how long they expected to wait while they were sitting in a waiting room; they were asked how convenient they expected the parking to be after they had already parked their cars; and they were asked how easy it would be to get an appointment after they had already obtained an appointment. By the design of the study, expectations for access mechanisms were measured in retrospect. Oliver (1980) warned that expectations measured in retrospect may introduce a subtle interaction between actual outcomes and prior expectancies. Perhaps, this is why we see a different pattern of results for the access mechanisms submodel.

What is the Relative Influence of Role Based and Non-Role Based Dimensions (Access Mechanisms) of a Professional Services on Satisfaction Formation?

The basic premise of the dissertation research was that role based dimensions are relatively more important in consumer evaluation processes for professional services. The argument was made that consumers base their evaluations on perceptions of the provider's overt behavior. If this is true, the contention was that role theory is an appropriate conceptual framework from which to model consumers' immediate satisfaction with professional service encounters.

In this research, the behavioral dimensions of the service were stronger

predictors of satisfaction than the nonbehavioral dimensions. The two strongest predictors of overall satisfaction with the clinic were satisfaction with the doctor and satisfaction with the staff. Satisfaction with the convenience factors of the service or the access mechanisms was significant but relatively less important.

From this research, one could conclude that consumers do indeed largely base their evaluation of professional services on their perceptions of the role players' behavior during the service encounter. Thus, role theory does appear to be an appropriate framework from which to model consumers' immediate satisfaction with professional service encounters.

How Does Consumers' Satisfaction With Their Own Role Influence Their Satisfaction With Professional Services?

Previous attempts to model patient satisfaction have ignored the interactive nature of medical services. A model of consumer satisfaction based on role theory cannot ignore the role the recipient of the service also has to play. This research provided an initial conceptualization and empirical test of the influence of consumer role expectations and behavior on satisfaction with health care services.

A key research question regarding consumers' role in professional service encounters is whether consumer satisfaction with their own role enhances their satisfaction with the service. In the full test of the model, patients' satisfaction with their own role exerted a significant negative impact on their overall satisfaction with the clinic. One explanation for this finding is that the more dissatisfied patients are with the clinic, the more satisfied they are with their own behavior. Patients may magnify satisfaction with their own role when they are disappointed with the service

provided. For example, patients may feel that they arrived on time for their appointments and yet the doctor kept them waiting. They may feel that they asked the doctor appropriate questions and yet s/he provided insufficient answers in response to their questions. In other words, they did everything right and they were still dissatisfied.

An examination of the simple pairwise correlation between patients' satisfaction with their own role and overall satisfaction with the clinic ($r^2 = .54$) indicates that the relationship is significant and positive. This is in contrast to what was found in the overall test of the model. A plausible explanation for the contradiction in findings is that collinearity among the satisfaction variables in the overall test of the model may have created an interpretative problem. The within correlation coefficients for the satisfaction measures were higher than the between correlation coefficients which suggests that the measures have good discriminant validity. Nevertheless, the composite measure for patient satisfaction with their own role was significantly correlated with composite measures for satisfaction with the doctor's role ($r^2 = .75$) and for satisfaction with access mechanisms ($r^2 = .61$). In the overall test of the model, these satisfaction measures were treated as prior endogenous variables predicting overall satisfaction. Collinearity among independent variables can create a number of problems including negatively correlated beta estimates. The fit statistics for the overall model suggest that the proposed model does not fit the data well. Specification errors may have also created some of the counter-intuitive results. Further investigation is needed to determine the influence

of patient satisfaction with their own role on satisfaction with service encounters.

Do Consumers Use Multiple Comparison Standards in the Evaluation of Professional Services?

This dissertation study provides an initial empirical examination of the presence of multiple comparison standards in consumer satisfaction/dissatisfaction formation for services. Multiple comparison standards have been suggested conceptually by several researchers (Tolman 1932; Adams 1963; Miller 1977; Liechty and Churchill 1979; Woodruff, Cadotte, and Jenkins 1983; Sirgy 1984) and tested empirically for satisfaction with products (Tse and Wilton 1988).

Tse and Wilton (1988) found empirical support for two comparison standards: ideal expectations and expectations. Both of these comparison standards were tested in this research. The results found in this study differed from those found by Tse and Wilton (1988). First, the presence of ideal expectations was not consistently found across the different submodels and across the different samples (pooled, high, and low involvement samples). Second, these researchers found the effects of ideal expectations on satisfaction to be negative and indirect (through perceived performance). In this study, the significant effects of ideal expectations on satisfaction were indirect (through perceived performance) but in contrast to Tse and Wilton's findings they were positive.

Why the conflicting results? In Tse and Wilton's (1988) research, subjects were instructed to act as potential customers in a test market trial of a new electronic, hand-held, miniature record player. Ideal product performance was measured after the subjects read a one page description. Next, subjects were

exposed to an expectation manipulation and asked to evaluate expected product performance. In this study, neither ideal expectations nor expectations were manipulated. Thus, some of the results regarding comparison standards reported by Tse and Wilton (1988) may reflect demand characteristics.

Another explanation for why we don't see a strong presence of ideal expectations in this research is that perhaps the use of different comparison standards is influenced by individual difference variables like experience or involvement. It has been proposed that ideal expectations is based on previous product experiences, learning from advertisements, and word-of-mouth communication (Miller 1977; Liecthy and Churchill 1979). Expected product performance is also likely to be influenced by previous experiences with a product or a service. Maybe as consumers become more experienced with a product or a service, their ideal expectations assimilate toward their expectations. With experience, consumers no longer make a distinction between ideal versus probabilistic expectations. Or maybe they make the distinction between comparison standards but for certain products or in certain service settings, one comparison standard has a dominate influence on satisfaction. For example, in a medical setting patients may hope to wait five minutes to see the doctor but realize that they will probably be kept waiting much longer. So although, consumers make the distinction between ideal expectations and expectations, as a comparison standard ideal expectations has less impact on satisfaction assessments than probabilistic expectations. Unlike the subjects in Tse and Wilton's (1988) research who probably had relatively little experience with the

product, the subjects in this study were likely to have had some experience with medical encounters prior to their clinic visit. The influence of experience on the use of different comparison standards was not empirically tested here. However, in the discussion that follows we see that the use of ideal expectations as a comparison standard may be influenced by another individual difference variable, involvement level.

When tested on the entire sample, ideal expectations was found to exert a positive and indirect influence on satisfaction with the doctor's role. The standardized structural parameter was small (< .30) but significant. When we examine the effects of ideal expectations on satisfaction with the doctor's role under different conditions of involvement, we see that ideal expectations is present only under conditions of low involvement (standardized structural parameter estimate = .340).

One explanation for this finding is that the effect of ideal expectations on satisfaction with the doctor's role is mediated by involvement with the service. However, one might predict that ideal expectations would have a stronger impact on satisfaction formation under conditions of high involvement rather than low involvement. Under conditions of high involvement, it would seem that patients would be more motivated to use multiple comparison standards. It would also seem that highly involved patients would be more likely seek or hope for ideal rather satisfactory service performance. The opposite could be said of patients with low involvement. They may settle for satisfactory service performance.

Another plausible explanation for this finding is that the measures for ideal expectations for the doctor's role were not equally valid across involvement samples. As was discussed in Chapter Four, measures for ideal expectations for the doctor's role lacked evidence of discriminant validity for the low involvement sample. This would suggest that for low involvement patients ideal expectations and expectations are not distinct constructs. Perhaps low involvement patients are less motivated to make the distinction between how they would like the doctor to behave and how they think the doctor will behave.

Ideal expectations was also found to exert a positive and indirect influence on patient's satisfaction with their own role for the low involvement sample. It is interesting that the relationship was significant under conditions of low involvement. One may think that if patients were to make a distinction between ideal and expected behaviors with respect to their own role, they would be more likely to do so if they were highly involved. Once again, an examination of measurement differences across involvement samples may provide a possible explanation for this finding. The reliability coefficient for ideal expectations for the patient's role was .49 for the high involvement sample and .83 for the low involvement sample. The low reliability of the measures for ideal expectations may have attenuated the relationship for the high involvement sample.

Since this research provides an initial conceptualization and operationalization of the consumer's role in a service encounter, it is possible that the domain of the consumer's role has not been adequately captured. The sociology of medicine

literature suggests that people may approach their role as patients quite differently. Concerned about a medical condition, patients who are highly involved with a visit to the clinic but who perceive their role in the medical encounter to be relatively passive may define ideal patient behavior as: seeking technically competent help, trusting the doctor and following the medical regimen (Parsons 1951). Patients who are also involved with a visit to the clinic but who perceive their role in a medical encounter to be relatively active, may define ideal patient behavior as: asking questions, stating preferences, proposing alternatives, expecting to be heard, seeking second opinions, and stating the type of intervention being sought from the physician (Quill 1983; Blackwell, Gutmann, and Jackson 1987). An examination of the items measuring ideal expectations for the patient's role indicate a possible bias towards the activated approach to patienthood (see Appendix A: Dissertation Surveys). Although the literature suggests that more patients desire greater participation in medical encounters, it is likely that there exists patients who still prefer a relatively passive approach to patienthood. If this is true, ideal expectations for the patient's role may not have been fully operationalized in this research.

Ideal expectations was also found to exert a positive and indirect effect on satisfaction with access mechanisms for the high involvement sample. The reliability and validity of the measures for ideal expectations were good. One explanation for the significant but small ($< .30$) relationship between ideal expectations and performance is that highly involved patients make the distinction between what they would ideally like to occur and what they believe is likely to

occur with respect to access mechanisms. These convenience factors of the service are relatively more tangible than the role-based dimensions of the service. It may be easier for patients to make a distinction between ideal expectations and expectations for such service dimensions as the amount of waiting time and the convenience of the parking than it is to make the distinction between ideal expectations and expectations for such service dimensions as the clarity of the doctor's explanation. Perhaps that is why we find the presence of ideal expectations for access mechanisms under conditions of high involvement. Why doesn't ideal expectations exert an influence on satisfaction formation for access mechanisms under conditions of low involvement? Perhaps patients who are less involved in the visit rely simply on probabilistic expectations as a comparison standard.

In summary, ideal expectations was found to exert an indirect effect on satisfaction formation for some of the service dimensions. This relationship was neither consistent across submodels nor across samples. The significant parameter estimates were relatively small ($< .34$) suggesting a weak relationship between ideal expectations and perceived performance. Some of the findings may be at least partially attributable to measurement problems associated with the measures for ideal expectations and performance. Based on these findings, one may conclude that patients do not use multiple comparison standards in satisfaction formation for medical services. However, since the findings here contradict previous findings in the satisfaction research, another inference is that either the operationalization of ideal expectations in this study was not a good operationalization of the comparison

standard or the presence of ideal expectations varies across service dimensions. Rather than eliminating ideal expectations in research on satisfaction formation for services, further research using this comparison standard appears warranted.

Does Consumer Involvement Have A Mediating Influence on Satisfaction Formation For Professional Services?

It was hypothesized that the relative impact of expectations, performance and disconfirmation would be influenced by consumers' level of involvement with the service. Lack of evidence for the discriminant validity of the performance measures raises some interpretative problems regarding the tests of the proposed influence of involvement. Without valid measures, it is impossible to conduct a valid test of the proposed hypotheses. The results of the analyses regarding involvement were inconsistent and in some cases, counter-intuitive. It is difficult to interpret these results and draw conclusions when one of the key variables in the hypotheses tests was not validly measured. Further research is needed to develop reliable and valid measures of performance and to investigate the potentially mediating influences of involvement on satisfaction formation for services.

Limitations

This section summarizes the major factors that must be considered in viewing the results of the dissertation. These factors limit the usefulness of the dissertation research to other academic researchers and practitioners.

The first limitation originates from the use of judgement sampling. It was felt that the advantages of sampling patients who had recently experienced a service encounter outweighed the disadvantages of utilizing a judgement sample. Although

judgement sampling was used, every attempt was made to obtain a sample representative of the general population with respect to gender, age, education, and income. The sample consisted of slightly more married people, younger and older people and less educated people than the general population.

The present study also attempted to obtain a balanced sample of new and returning patients. The sample consisted of slightly more returning patients than new patients. This is consistent with the daily patient profile for the clinic. On a daily basis, the proportion of returning patients is larger than the proportion of new patients. This made it difficult to obtain an equal proportion of new patients to returning patients within the data collection period.

The characteristics of the sample does not appear to have an impact on the basic objective of understanding and explaining satisfaction formation. As long as the sample demonstrates adequate variation, theory and concept testing can be performed (Calder, Phillips, and Tybout 1981).

A second limitation of the dissertation research lies in its reliance on pairwise matrices. The mathematics underlying the calculation of maximum likelihood estimates assumes we have a covariance matrix created by recording the value of each case on all the variables included in the input matrix, a listwise matrix. The costs involved in violating the assumption of a listwise matrix are unknown. Hayduk (1987) cautions that

> in models using pairwise matrices, the reasonableness of ultimate estimates should be assessed carefully, and the overall output should be viewed tentatively because responses of chi-square, standard errors, and other program output to pairwise matrices is unknown...Whether using a listwise

> or pairwise matrix, researchers should rerun the model using the "other" matrix and report any differences in results (Hayduk 1987, p. 327).

As discussed in Chapter Four, the models were rerun using listwise matrices. Slight differences in fit statistics and the magnitude of parameter estimates were noted. However, no differences in the patterns of relationships were found. To provide further evidence for the stability of the results, one might also reestimate the models using only one of the two comparison standards. As the reader may recall, these are the variables in which the data are incomplete. The models could be estimated separately using ideal expectations as the comparison standard and then using expectations. Since complete data would be available for these models, listwise matrices could be used. With this approach, the sample size would not be as drastically reduced as it was when listwise matrices were used to estimate the models with both comparison standards included.

A third limitation of the research concerns it methodology and measurements. One of the most serious measurement issues is the lack of evidence for the discriminant validity of the performance measures employed in this study. Another methodological issue relates to the distribution of responses for some of the variables in this research. As in prior satisfaction/dissatisfaction studies, the distribution of responses on some variables in this study is skewed and nonhomogeneous. The impact of deviations from normality or nonhomogeneous variable distributions depends largely on sample size and the size of the correlations assuming equivalent distributions. Nunnally (1978) suggests that moderate-sized correlations are relatively insensitive to differences in distribution shape assuming a fairly large

sample of subjects is being investigated (e.g. of at least 100). The results presented here are based on pairwise correlations consequently the exact sample size is unknown. Based on the criteria proposed by Nunnally (1978, p. 142), correlation coefficients obtained from a minimum of 55 subjects and a maximum of 131 subjects should be considered only moderately robust.

The final limitation of this research's contribution lies in the interpretation of the results for the proposed model. The use of linear structural equation analysis was deemed appropriate since the primary focus of the research was to explore model relationships and observe associations among model constructs. However, causal interpretation of the model is not appropriate. It is possible that some of the proposed constructs and relationships result from influences not included in the model. The model tested in this dissertation focused on the influence of process factors in determining consumer satisfaction with professional services. However, there may be a number of antecedent variables that impact consumer evaluation processes for professional services. For example, patients' prior experience with the clinic, experience with other medical encounters, experience with the medical condition, knowledge of the doctor's reputation, insurance coverage, as well as other variables may be associated with each of the proposed constructs. There are also a number of outcome variables such as effectiveness of the treatment, length of the recovery period, and elimination of discomfort and pain which are excluded from the model but are very likely to influence consumer satisfaction with the medical service. To accurately understand and explain consumer satisfaction formation for

professional services, a longitudinal study is needed to examine the relationship between antecedent, process, and outcome variables.

Methodological Issues for Future Research

The problems encountered in this study raise a number of methodological issues that should be addressed in future service satisfaction research. This research, as well as other satisfaction research, report problems with the measures of performance. This appears to be an important methodological issue that needs serious attention by those who conduct research in the area of service satisfaction. Some of the problems associated with the performance measures in this study and in past studies may be due in part to the simultaneous measurement of performance, disconfirmation, and satisfaction. This approach may introduce an interaction between prior expectancies, perceptions of performance and satisfaction assessments. A three stage longitudinal study could eliminate some of the measurement problems. Future research should attempt to measure expectations before the service encounter (t_1), performance immediately following the service encounter (t_2), and disconfirmation and satisfaction shortly after the service encounter (t_3).

The problem of shared method variance is a related measurement issue that must be considered and dealt with in future service satisfaction research. In this research, most of the constructs were measured using similar measurement methods. Shared method variance is indeed a possibility. This researcher was not able to utilize multi-trait, multi-method (MTMM) analysis to fully investigate this issue since dissimilar methods of measurement were not available for all the constructs of

interest. Future research should employ multiple methods of measurement and apply MTMM analysis to further explore the issue of common methods variance. Also future researchers should employ longitudinal designs whenever possible to help limit the problem of common method variance.

Another measurement issue relates to the timing of measurements. In this research, ideal expectations and expectations for the access mechanisms were measured in retrospect. Problems associated with this approach have already been addressed and should be avoided in future research.

Another timing problem in this research was related to the measurement of involvement. Involvement was measured at the clinic (t_1) while performance, disconfirmation, and satisfaction were measured after the clinic visit (t_2). These were the constructs that involvement was hypothesized to influence yet they were measured at different time intervals. This assumes that patients' state of involvement remained constant over time. This may not be a valid assumption. Future research on the effects of involvement on satisfaction should attempt to measure involvement at both time periods.

Implications and Recommendations for Future Research

The dissertation findings and its limitations also raise some broad conceptual questions around which suggestions for future research are organized. These are:

-What impact does perceived performance have on satisfaction with professional services?,

-Have the behavioral dimensions of the role players been fully

operationalized?,

-Do consumers utilize multiple comparison standards in evaluating professional services?,

-What influence does involvement have on satisfaction formation for professional services?

-How can the satisfaction model be improved?

What Impact Does Perceived Performance Have on Satisfaction with Professional Services?

Methodological limitations inhibited the researcher's ability to fully address this research question. As was previously discussed, further research effort should be expended to develop reliable and valid measures of performance for the different dimensions of professional services. Since the role-based dimensions of the service appear to be more important in determining customer satisfaction with professional services, much of the research effort should be directed at developing scales to measure performance for the various role players in the service setting.

Once reliable and valid measures of performance are developed, the relative influence of expectations, performance, and disconfirmation on satisfaction should be investigated across different service settings. It may be that performance becomes more or less important depending upon the properties (search, experience and credence) of the service.

Have the Behavioral Dimensions of the Role Players Been Fully Operationalized?

The types of behavior that comprise the doctor's role have been well documented in the literature. The research presented here is one of the first studies to describe in detail some of the types of behavior that comprise the patient's role in

a medical encounter. Additional empirical research is needed to ensure that all possible types of patient behavior are included in the operationalization of the patient's role. As was pointed out earlier, the scales developed here to operationalize the patient's role may have had a bias towards measuring a more activated role orientation. Scale development efforts are required to develop more balanced measures of the patient's role.

Another related research project would be to develop a measure to capture patient's role orientation: the traditional passive approach to patienthood or the more recent activated approach to patienthood. This measurement could be administered to new patients when information about the patient's medical history is typically obtained. Information regarding the patient's role orientation would enable the service providers to attempt their behavior to meet the individual needs of their clients.

Another interesting research question that warrants attention is what are some of the individual difference variables that influence role conception or orientation? As with types of expectations, one could hypothesize that the important antecedents to role expectations include demographic variables such as education and age and psychological variables such as locus of control and perceived risk. One may also ask whether role orientation is a stable characteristic of the individual or does role orientation change with the situation or setting? The role of consumers in service interactions has been virtually ignored in the literature to date. Consequently, there are many more questions regarding consumers' role in service encounters than there

are answers.

In this research, the focus of the dissertation was on the doctors' and the patients' roles. Less attention was given to describing the behaviors that comprise the staff's role. Consequently, the performance of the factor model for the staff's role was much worse than for the other two role players. Yet, the most significant predictor of satisfaction with the clinic was satisfaction with the staff. Obviously, staff members such as the nurses, technicians and receptionists are important role players in the service encounter and therefore deserve research attention. In many professional settings, the consumer may have more interaction with members of the staff than with the primary service provider. Again, more research is needed to develop good operationalizations for the staff's role in a service setting.

Do Consumers Utilize Multiple Comparison Standards in Evaluating Professional Services?

While multiple comparison standards have been suggested conceptually by a number of researchers, to date there is little empirical evidence that consumers employ different comparison standards in the process of evaluating products and services. This study found only weak support for the impact of ideal expectations on satisfaction formation for medical services. Future research may be directed at determining under what conditions consumers employ different comparison standards? Is ideal expectations an appropriate comparison standard for products but not for services? The service satisfaction literature suggests that there is a great deal of discontent among consumers with regard to the quality and delivery of services, in particular medical services. Do consumers feel that optimum service performance

is an unattainable goal and rather than hope for something that is rarely delivered, they base their judgement of the service on a more realistic goal, probable service performance?

Another relevant research question is whether expectations represent stable characteristics of the individual. It has been suggested in the literature that expectations are not stable but this assumption has not been empirically tested. Further research is needed to determine antecedent variables that influence consumer expectations. An extension of this research would be to investigate possible antecedent variables that influence role expectations. As was alluded to earlier, two antecedent variables that may influence role expectations are involvement level or experience. Other possible antecedent variables include age, socio-economic status, gender, perceived risk, and locus of control.

What Influence Does Involvement Have on Satisfaction Formation for Professional Services?

Since the proposed influence of involvement on satisfaction formation for professional services was not adequately tested in this study, further research is needed before any conclusions can be drawn regarding the mediating influence of involvement. Involvement was hypothesized to influence the magnitude to which expectations, performance, and disconfirmation influence satisfaction. As discussed earlier, the findings here suggest that involvement may also influence the use of different comparison standards in evaluation processes for professional services. Inconsistencies in the reliability and validity of measures across involvement samples also suggest that the question of whether measures have been developed that are

equally reliable and valid across multiple samples.

How Can The Satisfaction Model Be Improved?

While many of the hypotheses proposed in this dissertation were supported, it is likely that other factors influence consumer satisfaction with professional services. For example, the inclusion of some of the antecedent variables previously mentioned may provide a richer understanding of the processes that underlie consumer satisfaction evaluations for professional services. The model focuses on the interaction between role players in a service setting and yet interaction satisfaction was not measured. The explanatory ability of the model may be improved by incorporating interpersonal or exchange satisfaction. The model does not measure service outcomes and their influence on satisfaction. Service outcomes are likely to influence such things as long-term satisfaction, continued patronage, and word-of-mouth. In many service settings, this would require a longitudinal study. However, the addition of this data would allow the researcher to investigate the relative importance of consumer satisfaction with the interactive dimensions of the service, the convenience dimensions of the service and the outcomes of the service.

Summary

In conclusion, this dissertation research provided an extension in three primary areas: (1) the satisfaction research was broadened by testing relationships found in the product satisfaction literature in the context of professional services; (2) the relative importance of role-based and non-role based dimensions of services was investigated by assimilating role dimensions into a model of service satisfaction;

and (3) the service satisfaction research was extended by conceptualizing and empirically testing the impact of consumers' role on evaluation processes for professional services.

Additionally, directions for future research were discussed. It is unlikely that the research projects suggested here will lead to a perfect understanding of consumer satisfaction formation for professional services. It is hoped that the recommendations for future research represent a potentially productive direction for service satisfaction research.

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Appendix A: Dissertation Questionnaires

LOUISIANA STATE UNIVERSITY

PATIENT SATISFACTION SURVEY

Many people today are concerned about health care. We want to hear about your concerns and about your satisfaction with the service provided by the Bone and Joint Clinic. By taking part in this survey, you will be helping me to complete my dissertation research on patient satisfaction. You will also be helping the Bone and Joint Clinic to understand how to better serve you. We are eager to hear your opinion.

To help us understand what you expect from the Bone and Joint Clinic, we ask you to fill out a short questionnaire while you wait to see the doctor. After you see the doctor we would like to talk to you again for just a few minutes.

Please be assured that your answers to the questions are strictly confidential. You will notice an identification number on the upper right hand corner of the survey. This number will be used to match the answers you gave before you saw the doctor with the answers you give after you see the doctor. ***No one*** *will be able to match your name with your answers.*

To thank you for your help with my research, I would like to give one of you a $50 gift certificate to Mansur's Restaurant in Village Square. To enter the lottery for the gift certificate, you will need to complete and return a pre-addressed, stamped lottery registration postcard. I will give you this postcard after you see the doctor. Once the study is completed, I will randomly select the winner from the lottery registration numbers on the postcard.

Thank you for your cooperation.

Sincerely,

Teri Shaffer

Teri Shaffer
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PART 1

PART 1 is concerned with: **WHAT YOU WOULD IDEALLY LIKE TO HAPPEN DURING TODAY'S CLINIC VISIT.** We would like to know HOW YOU THINK THE DOCTOR SHOULD BEHAVE DURING TODAY'S CLINIC VISIT, HOW YOU THINK YOU SHOULD BEHAVE DURING TODAY'S CLINIC VISIT, AND HOW YOU THINK OTHER ASPECTS OF TODAY'S CLINIC VISIT SHOULD GO.

IDEALLY, HOW SHOULD THE DOCTOR BEHAVE DURING TODAY'S CLINIC VISIT? The following statements relate to what consider **ideal** physician behavior. To help you express your opinion, you are provided with five possible responses to each statement. For each statement, please circle the one answer which **best** describes your feelings. There are no right or wrong answers-all we are interested in is the number that best expresses your opinion. For example, if you **STRONGLY DISAGREE** with the statement then circle "**1**", if you **AGREE** with the statement then circle "**4**", if you **STRONGLY AGREE** circle "**5**".

STRONGLY DISAGREE	DISAGREE	NEITHER AGREE OR DISAGREE	AGREE	STRONGLY AGREE
1	2	3	4	5

IN THINKING ABOUT HOW THE DOCTOR SHOULD BEHAVE DURING TODAY'S CLINIC VISIT, I THINK THE DOCTOR SHOULD:

	Strongly Disagree				Strongly Agree
Help me put into words the kind of medical help that I want	1	2	3	4	5
Discuss any concerns I may have about my problem	1	2	3	4	5
Be empathetic with my particular situation	1	2	3	4	5
Explain what s/he is going to do	1	2	3	4	5
Give Me his/her full attention when I see him/her	1	2	3	4	5
Give me a chance to voice my concerns	1	2	3	4	5
Be comforting and reassuring	1	2	3	4	5
Tell me to call him/her if I have any questions	1	2	3	4	5
Treat me with respect	1	2	3	4	5
Be better trained than the average doctor	1	2	3	4	5
Ask me if I have any questions	1	2	3	4	5
Keep up with the latest medical discoveries	1	2	3	4	5
Be careful	1	2	3	4	5

IDEALLY, HOW SHOULD YOU BEHAVE DURING TODAY'S CLINIC VISIT? The following statements relate to what you consider **ideal** patient behavior. Circle the response that **best** describes your opinion for each statement.

IN THINKING ABOUT HOW A PATIENT SHOULD BEHAVE DURING A CLINIC VISIT, I THINK I SHOULD:

	Strongly Disagree				Strongly Agree
Ask the doctor to explain more clearly what I am suppose to do	1	2	3	4	5
Ask the doctor what I need to know about my condition	1	2	3	4	5
Ask the doctor for all the information that s/he has regarding my condition	1	2	3	4	5
Find out as much as possible about my problem	1	2	3	4	5

	Strongly Disagree				Strongly Agree
Discuss alternative treatment plans with the doctor and then choose the one I am most comfortable with	1	2	3	4	5
Tell the doctor how I would like things done	1	2	3	4	5
Ask the doctor about any complications that s/he may anticipate	1	2	3	4	5
Repeat back in my own words what the doctor tells me	1	2	3	4	5
Find out from the doctor information regarding my condition	1	2	3	4	5
Decide with the doctor what is the most appropriate treatment	1	2	3	4	5

IDEALLY, HOW SHOULD OTHER ASPECTS OF TODAY'S CLINIC VISIT GO? The following statements relate to what you consider an **ideal** clinic visit. Circle the response that **best** expresses your thoughts for each statement.

IN THINKING ABOUT THE IDEAL CLINIC VISIT, I THINK THE CLINIC SHOULD HAVE:

	Strongly Disagree				Strongly Agree
Enough telephone lines so that it is easy to get through to the clinic by phone	1	2	3	4	5
Doctor's nurses that treat me as an individual	1	2	3	4	5
Xray and cast technicians that are friendly and caring	1	2	3	4	5
A short wait until you see the doctor	1	2	3	4	5
A waiting area that is crowded and noisy	1	2	3	4	5
Appointment times that are convenient to me	1	2	3	4	5
A policy of handling the filing of insurance forms	1	2	3	4	5
Receptionists and cashiers that treat me as an individual	1	2	3	4	5
Reasonable fees	1	2	3	4	5
Doctor's nurses that are friendly and caring	1	2	3	4	5
Clinic hours that are convenient to my schedule	1	2	3	4	5
Enough appointments available so that it is easy to get an appointment	1	2	3	4	5
A comfortable waiting area	1	2	3	4	5
Receptionists and cashiers that are friendly and caring	1	2	3	4	5
A clinic staff that is interested in serving me	1	2	3	4	5
Parking that is convenient	1	2	3	4	5
The policy of clearly explaining payment policies	1	2	3	4	5
A convenient location	1	2	3	4	5
Xray and cast technicians that treat me as an individual	1	2	3	4	5
Up-to-date equipment	1	2	3	4	5

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PART 2

Part 2 is concerned with: **HOW YOU FEEL ABOUT TODAY'S CLINIC VISIT**. In the first set of statements, we would like you to use the adjectives to express your feelings. Place a mark in one of the spaces provided to indicate how you feel about the clinic visit. In the example below, the mark indicates that the patient felt the visit was important.

IMPORTANT____:__x__:____:____:____UNIMPORTANT

TODAY'S CLINIC VISIT IS:

SOMETHING THAT MATTERS TO ME	____:____:____:____:____	SOMETHING THAT DOESN'T MATTER TO ME
UNIMPORTANT	____:____:____:____:____	IMPORTANT
OF NO CONCERN	____:____:____:____:____	OF CONCERN
IRRELEVANT	____:____:____:____:____	RELEVANT
USELESS	____:____:____:____:____	USEFUL
VALUABLE	____:____:____:____:____	WORTHLESS
BENEFICIAL	____:____:____:____:____	NOT BENEFICIAL
ESSENTIAL	____:____:____:____:____	NONESSENTIAL
NOT NEEDED	____:____:____:____:____	NEEDED

Next, we would like you to read each of the following statements and indicate how you feel about today's clinic visit by circling one response that best expresses your feelings.

	Strongly Disagree				Strongly Agree
Today's visit to the clinic is very important to me	1	2	3	4	5
I am very concerned about today's clinic visit	1	2	3	4	5
I spent a lot of time thinking about today's clinic visit	1	2	3	4	5
I am very anxious about today's clinic visit	1	2	3	4	5
I am worried about today's visit to the clinic	1	2	3	4	5
I would describe today's clinic visit as being routine	1	2	3	4	5
Today's clinic visit is not very important to me	1	2	3	4	5
I am very nervous about today's clinic visit	1	2	3	4	5
I do not consider today's clinic visit routine	1	2	3	4	5
I am not worried about today's clinic visit	1	2	3	4	5

The next few questions pertain to your current mood. Please indicate how strongly you agree or disagree with the following statements by placing an 'X' in the appropriate space.

Currently I am in a good mood.

Strongly Disagree ____:____:____:____:____ Strongly Agree

As I answer these questions I feel very cheerful.

Strongly Disagree ____:____:____:____:____ Strongly Agree

For some reason I am not very comfortable right now.

Strongly Disagree _____:_____:_____:_____:_____ Strongly Agree

At this moment I feel "edgy" or irritable.

Strongly Disagree _____:_____:_____:_____:_____ Strongly Agree

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PART 3

PART 3 is concerned with: **WHAT YOU EXPECT TO HAPPEN DURING TODAY'S CLINIC VISIT.** We are interested in HOW YOU EXPECT THE DOCTOR TO BEHAVE DURING TODAY'S CLINIC VISIT, HOW YOU EXPECT TO BEHAVE DURING TODAY'S CLINIC VISIT, AND HOW YOU EXPECT OTHER ASPECTS OF TODAY'S CLINIC VISIT TO GO.

HOW DO YOU EXPECT THE DOCTOR TO BEHAVE DURING YOUR VISIT WITH HIM/HER? Please read each statement and tell us how likely or unlikely you believe its occurrence is. There are no right or wrong answers, we are only interested in your expectations. To help indicate your expectations, you are provided with five possible responses. Please circle one response which best describes your expectations.

VERY LIKELY = VL
LIKELY = L
NEITHER LIKELY NOR UNLIKELY = NL
UNLIKELY = U
VERY UNLIKELY = VU

HOW LIKELY IS IT THAT THE DOCTOR WILL:

	Very Likely				Very Unlikely
Help me put into words the kind of medical help that I want	VL	L	NL	U	VU
Be better trained than the average doctor	VL	L	NL	U	VU
Ask me if I have any questions	VL	L	NL	U	VU
Keep up with the latest medical discoveries	VL	L	NL	U	VU
Be careful	VL	L	NL	U	VU
Discuss any concerns I may have about my problem	VL	L	NL	U	VU
Be empathetic with my particular situation	VL	L	NL	U	VU
Explain what s/he is going to do	VL	L	NL	U	VU
Give me his/her full attention when I see him/her	VL	L	NL	U	VU
Give me a chance to voice my concerns	VL	L	NL	U	VU
Be comforting and reassuring	VL	L	NL	U	VU
Tell me to call him/her if I have any questions	VL	L	NL	U	VU
Treat me with respect	VL	L	NL	U	VU

HOW DO YOU EXPECT TO BEHAVE DURING TODAY'S CLINIC VISIT? Please read each statement and tell us how likely or unlikely you believe its occurrence is. As before, please circle one response which best describes your expectations.

HOW LIKELY IS IT THAT YOU WILL:

	Very Likely				Very Unlikely
Ask the doctor for all the information that s/he has regarding my condition	VL	L	NL	U	VU
Ask the doctor what I need to know about my condition	VL	L	NL	U	VU
Find out as much as possible about my problem	VL	L	NL	U	VU
Ask the doctor about any complications that s/he may anticipate	VL	L	NL	U	VU
Discuss alternative treatment plans with the doctor and then choose the one I am most comfortable with	VL	L	NL	U	VU
Indicate to the doctor how I would like things done	VL	L	NL	U	VU
Find out from the doctor information regarding my condition	VL	L	NL	U	VU
Repeat back in my own words what the doctor tells me	VL	L	NL	U	VU
Decide with the doctor what is the most appropriate treatment	VL	L	NL	U	VU
Ask the doctor to explain more clearly what I am suppose to do	VL	L	NL	U	VU

WHAT ELSE DO YOU EXPECT TO HAPPEN DURING TODAY'S CLINIC VISIT? Once again, please read each statement and tell us how likely or unlikely you believe its occurrence is.

HOW LIKELY IS IT THAT THE CLINIC WILL HAVE:

	Very Likely				Very Unlikely
Enough telephone lines so that it is easy to get through to the clinic by phone	VL	L	NL	U	VU
Doctor's nurses that are friendly and caring	VL	L	NL	U	VU
A short wait until you see the doctor	VL	L	NL	U	VU
A waiting area that is crowded and noisy	VL	L	NL	U	VU
Receptionists and cashiers that are friendly and caring	VL	L	NL	U	VU
Appointment times that are convenient to me	VL	L	NL	U	VU
A policy of handling the filing of insurance forms	VL	L	NL	U	VU
Reasonable fees	VL	L	NL	U	VU
Xray and cast technicians that treat me like an individual	VL	L	NL	U	VU
Clinic hours that are convenient to my schedule	VL	L	NL	U	VU
A comfortable waiting area	VL	L	NL	U	VU
A clinic staff that is interested in serving me	VL	L	NL	U	VU
Receptionists and cashiers that treat me as an individual	VL	L	NL	U	VU
Parking that is convenient	VL	L	NL	U	VU
The policy of clearly explaining payment policies	VL	L	NL	U	VU
A convenient location	VL	L	NL	U	VU
Enough appointments available so that it is easy to get an appointment	VL	L	NL	U	VU
Doctor's nurses that treat me as an individual	VL	L	NL	U	VU
Up-to-date equipment	VL	L	NL	U	VU
Xray and cast technicians that are friendly and caring.	VL	L	NL	U	VU

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PART 4

PART 4 is concerned with: **YOUR REASONS FOR VISITING THE BONE AND JOINT CLINIC AND YOUR EXPERIENCE WITH THE BONE AND JOINT CLINIC.** For each question, place a mark in the appropriate spaces.

Indicate the day of week and time of day of your appointment.

Monday _____	8 a.m. - 10 a.m._____
Tuesday _____	10 a.m. - 12 noon_____
Wednesday _____	12 noon - 2 p.m._____
Thursday _____	2 p.m. - 4 p.m._____
Friday _____	4 p.m. - 6 p.m._____

How many times have you visited the Bone and Joint Clinic?

_____ First visit	_____ 4-5 times
_____ 2-3 times	_____ More than 5

Have you seen other doctors for this medical problem? ____Yes ____No

What is the name of the doctor you are seeing today?_____

How many times have you seen this doctor before today's appointment?

_____ First visit with this doctor	_____ 4-5 times
_____ 2-3 times	_____ More than 5

When was the last time you saw this doctor?_____

How did you hear about the Bone and Joint Clinic?

_____ Physician referral	_____Hospital referral
_____ Insurance referral	_____Telephone book
_____ Friend\acquaintance\relative	
_____ Other (Please Be Specific_____)	

What is the form of payment for the services provided today?

_____ It is completely covered by an insurance policy
_____ It is partially covered by an insurance policy
_____ I will pay for the services

Is this visit covered under workman's compensation?_____ Yes _____ No

Is the purpose of this visit to verify disability?_____ Yes _____ No

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Thank you very much for helping me with my dissertation research by completing this questionnaire. After you see the doctor, I will give you another questionnaire. This questionnaire is interested in your satisfaction with today's clinic visit. Please complete this questionnaire at home and mail the completed questionnaire in the stamped, addressed envelope that will be provided.

I want to thank you for your help with my research. So in addition to fully funding this research, I will personally purchase a $50 gift certificate to Mansur's Restaurant located in Village Square. Your name will be entered in a drawing for this gift certificate when you return the questionnaire and the lottery registration postcard. Please do not forget to return both the questionnaire and the postcard.

If you have any questions about the survey please contact me at Louisiana State University.

TERI SHAFFER
DEPARTMENT OF MARKETING (3127 CEBA)
LOUISIANA STATE UNIVERSITY
BATON ROUGE, LOUISIANA 70803
(504) 388-8684

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LOUISIANA STATE UNIVERSITY

PATIENT SATISFACTION SURVEY

In the first questionnaire we were interested in how you thought your visit to the Bone and Joint Clinic should go and what you expected to happen during your visit to the clinic. This questionnaire is designed to ask about your experience at the Bone and Joint Clinic and your evaluation of the care provided by the Bone and Joint Clinic.

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PART 1

In PART 1, we would like you to think about your visit to the Bone and Joint Clinic. First, we would like to know: **WHAT ASPECTS OF YOUR CLINIC VISIT DID YOU FIND SATISFYING AND WHAT ASPECTS OF YOUR VISIT DID YOU FIND DISSATISFYING?** Then we would like you to tell us: **OVERALL, HOW SATISFIED YOU ARE WITH THE BONE AND JOINT CLINIC?**

Please read each question carefully. Write your answer for each question in the spaces provided.

WHAT WERE THE MOST SATISFYING ASPECTS OF YOUR VISIT TO THE BONE AND JOINT CLINIC? WHAT THINGS DID YOU LIKE THE MOST?

_____

_____

_____

WHAT WERE THE MOST DISSATISFYING ASPECTS OF YOUR VISIT TO THE BONE AND JOINT CLINIC? WHAT THINGS DID YOU LIKE THE LEAST?

_____

_____

_____

OVERALL, HOW SATISFIED ARE YOU WITH THE BONE AND JOINT CLINIC? To help express your satisfaction, you are provided with five possible responses to each statement. Please circle one answer which **best** describes your feelings. There are no right or wrong answers-all we are interested in is the number that best expresses your opinion. For example, if you **DISAGREE** with the first statement circle "**2**". If you **STRONGLY AGREE** circle "**5**".

STRONGLY DISAGREE	**DISAGREE**	**NEITHER AGREE OR DISAGREE**	**AGREE**	**STRONGLY AGREE**
1	**2**	**3**	**4**	**5**

	Strongly Disagree				Strongly Agree
Overall, I am very satisfied with the Bone and Joint Clinic	1	2	3	4	5
My choice to go to the clinic was a wise one	1	2	3	4	5
If I had to do it all over again, I would still go to the Bone and Joint Clinic	1	2	3	4	5
I feel bad about my choice to go to this clinic	1	2	3	4	5
I think I did the right thing when I decided to go to the Bone and Joint Clinic	1	2	3	4	5
I am pleased with the service provided by the Bone and Joint Clinic	1	2	3	4	5
If I had to do it all over again, I would choose another clinic	1	2	3	4	5

AFTER GOING TO THE BONE AND JOINT CLINIC, I FEEL...

7	6	5	4	3	2	1
Delighted	Pleased	Mostly Satisfied	Mixed Feelings	Mostly Dissatisfied	Unhappy	Terrible

OVERALL, I LIKED THE BONE AND JOINT CLINIC.

STRONGLY DISAGREE _____:_____:_____:_____:_____ STRONGLY AGREE

OVERALL, I LIKED THE DOCTOR THAT I SAW AT THE BONE AND JOINT CLINIC.

STRONGLY DISAGREE _____:_____:_____:_____:_____ STRONGLY AGREE

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PART 2

PART 2 is concerned with how satisfied you are with specific aspects of your visit to the Bone and Joint Clinic. We would like to know **HOW SATISFIED YOU ARE WITH THE DOCTOR'S BEHAVIOR DURING YOUR CLINIC VISIT, HOW SATISFIED YOU ARE WITH YOUR BEHAVIOR DURING YOUR CLINIC VISIT**, and **HOW SATISFIED YOU ARE WITH OTHER ASPECTS OF YOUR CLINIC VISIT**.

HOW SATISFIED ARE YOU WITH THE DOCTOR'S BEHAVIOR DURING YOUR VISIT TO THE BONE AND JOINT CLINIC? Below are several statements concerning your satisfaction with the doctor's behavior during this visit. For each statement, please indicate your level of satisfaction by circling one of five available responses.

CD if you are **COMPLETELY DISSATISFIED**
D if you are **DISSATISFIED**
NS if you are **NEITHER SATISFIED OR DISSATISFIED**
S if you are **SATISFIED**
CS if you are **COMPLETELY SATISFIED**

HOW SATISFIED ARE YOU WITH:

	Completely Dissatisfied				Completely Satisfied
The amount of personal attention you received from the doctor	CD	D	NS	S	CS
The amount of time the doctor spent with you	CD	D	NS	S	CS
The doctor's diagnosis and treatment plan	CD	D	NS	S	CS
The doctor's level of training	CD	D	NS	S	CS
The amount of attention given to you by the doctor	CD	D	NS	S	CS
The doctor's level of experience	CD	D	NS	S	CS
The doctor's consideration of you as a person	CD	D	NS	S	CS
The degree to which the doctor answered all your questions	CD	D	NS	S	CS
The information provided to you by the doctor	CD	D	NS	S	CS
The doctor's knowledge of your problem	CD	D	NS	S	CS
The doctor's carefulness	CD	D	NS	S	CS
The extent to which the doctor listened to you	CD	D	NS	S	CS
The doctor's treatment of you	CD	D	NS	S	CS

HOW SATISFIED ARE YOU WITH YOUR BEHAVIOR AS A PATIENT DURING YOUR VISIT TO THE BONE AND JOINT CLINIC? Below are several statements concerning your satisfaction with the your own behavior. For each statement, please indicate your level of satisfaction by circling one of five available responses.

HOW SATISFIED ARE YOU WITH:

	Completely Dissatisfied				Completely Satisfied
The degree to which you asked the doctor to explain something you did not understand	CD	C	NS	S	CS
The amount of information that you told the doctor	CD	D	NS	S	CS
The extent to which you asked questions during your clinic visit	CD	D	NS	S	CS
The extent to which you expressed your concerns	CD	D	NS	S	CS
The extent to which you discussed alternative treatment plans with your doctor	CD	D	NS	S	CS
Your ability to express your feelings	CD	D	NS	S	CS
The extent to which you helped your doctor decide on an appropriate treatment plan	CD	D	NS	S	CS
The degree to which you stated your preferences	CD	D	NS	S	CS

HOW SATISFIED ARE YOU WITH OTHER ASPECTS OF YOUR VISIT TO THE BONE AND JOINT CLINIC? For each statement indicate your level of satisfaction by circling the one response that **best** describes your level of satisfaction.

HOW SATISFIED ARE YOU WITH:

	Completely Dissatisfied				Completely Satisfied
The doctor's nurses treatment of you	CD	D	NS	S	CS
The amount of time you had to wait to see the doctor	CD	D	NS	S	CS
The fees for clinic services	CD	D	NS	S	CS
The comfort of the waiting area	CD	D	NS	S	CS
The ease of getting an appointment to see the doctor	CD	D	NS	S	CS
The decor of the clinic	CD	D	NS	S	CS
The receptionists and cashiers treatment of you	CD	D	NS	S	CS
The convenience of your appointment time	CD	D	NS	S	CS
The use of up-to-date equipment at the clinic	CD	D	NS	S	CS
The convenience of the clinic location	CD	D	NS	S	CS
The doctor's accessibility	CD	D	NS	S	CS
The x-ray and cast technicians treatment of you	CD	D	NS	S	CS

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PART 3

Now we would like to know what actually happened during your visit to the Bone and Joint Clinic. We would like to know how the doctor behaved, how you behaved, and how other aspects of your clinic visit went.

HOW WOULD YOU DESCRIBE THE DOCTOR'S BEHAVIOR DURING YOUR VISIT TO THE BONE AND JOINT CLINIC? Below are several statements regarding what happened when you saw the doctor. Circle the response that **best** describes the doctor's behavior.

DURING MY VISIT TO THE BONE AND JOINT CLINIC, THE DOCTOR:

	Strongly Disagree				Strongly Agree
Appeared better trained than the average doctor	1	2	3	4	5
Explained what s/he was going to do	1	2	3	4	5
Treated me with respect	1	2	3	4	5
Seemed inexperienced	1	2	3	4	5
Was careful to explain why s/he was doing certain things	1	2	3	4	5
Did not seem to hear what I was telling him/her	1	2	3	4	5
Listened to me	1	2	3	4	5
Appeared competent	1	2	3	4	5
Seemed very thorough	1	2	3	4	5

HOW WOULD YOU DESCRIBE YOUR BEHAVIOR DURING YOUR VISIT TO THE BONE AND JOINT CLINIC? Please circle the response that **best** describes your behavior.

DURING MY VISIT TO THE BONE AND JOINT CLINIC, I:

	Strongly Disagree				Strongly Agree
Discussed a number of alternative treatment plans with the doctor and then I choose the one I preferred	1	2	3	4	5
Tried to find out as much as possible about my condition	1	2	3	4	5
Asked the doctor to explain more clearly what I was supposed to do	1	2	3	4	5
Told the doctor how I would like things done	1	2	3	4	5
Questioned the doctor as to what I should and should not be doing	1	2	3	4	5
Asked the doctor to repeat his instructions to me	1	2	3	4	5
Decided with the doctor what was the most appropriate treatment	1	2	3	4	5
Asked the doctor for more detailed instructions	1	2	3	4	5
Asked the doctor for all the information s/he had regarding my problem	1	2	3	4	5

HOW WOULD YOU DESCRIBE OTHER ASPECTS OF YOUR EXPERIENCE AT THE BONE AND JOINT CLINIC? Circle the response that **best** describes your experience.

DURING MY VISIT TO THE BONE AND JOINT CLINIC:

	Strongly Disagree				Strongly Agree
The doctor's nurses were friendly and caring	1	2	3	4	5
The clinic waiting area was crowded and noisy	1	2	3	4	5
My appointment was at a time convenient to me	1	2	3	4	5
The clinic handled the filing of insurance forms	1	2	3	4	5
The clinic fees were reasonable	1	2	3	4	5
The clinic was open at times that were convenient to my schedule	1	2	3	4	5
The receptionists and cashiers were friendly and caring	1	2	3	4	5
The waiting area at the clinic was comfortable	1	2	3	4	5
The clinic staff was interested in serving me	1	2	3	4	5
It wasn't easy to get an appointment at the clinic	1	2	3	4	5
The receptionists and cashiers treated me like an individual	1	2	3	4	5
The x-ray and cast technicians were friendly and caring	1	2	3	4	5
It was easy to getting through to the clinic by phone	1	2	3	4	5
The parking at the clinic was not convenient	1	2	3	4	5
I had to wait a long time to see the doctor	1	2	3	4	5
The x-ray and cast technicians treated me like an individual	1	2	3	4	5
The clinic payment policies were clearly explained to me	1	2	3	4	5
The clinic was conveniently located	1	2	3	4	5
The doctor's nurses treated me like an individual	1	2	3	4	5
The clinic used up-to-date equipment	1	2	3	4	5

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PART 4

The questions in PART 4 are concerned with how well your expectations about your visit to the Bone and Joint Clinic were met. We would like you to think about what happened during your clinic visit. Now think about what you expected to happen. **IN THE NEXT SET OF QUESTIONS, WE WOULD LIKE YOU TO COMPARE WHAT ACTUALLY HAPPENED DURING YOUR CLINIC VISIT WITH WHAT YOU EXPECTED TO HAPPEN.** First, we would like to know how well your expectations in general were met. Then, we would like you to compare the doctor's actual behavior with your expectations of the doctor's behavior and your actual behavior with your expectations of your behavior. Next think about other aspects of your clinic visit. How does what happened compare to what you expected to happen?

HOW DOES WHAT HAPPENED DURING YOUR VISIT TO THE BONE AND JOINT CLINIC COMPARE TO WHAT YOU EXPECTED TO HAPPEN DURING YOUR VISIT? Please read each statement and rate the degree to which your expectations were met using the following 5-point scale. For example, if the doctor's bedside manner **Greatly Fell Short of Your Expectations**, circle "**1**". If the doctor's bedside manner **Exceeded Your Expectations**, circle "**4**".

Greatly Fell Short of My Expectations		**Meet My Expectations**		**Greatly Exceeded My Expectations**
1	**2**	**3**	**4**	**5**

The office visit in general	1	2	3	4	5
The doctor's bedside manner	1	2	3	4	5
My ability to express my concerns to the doctor	1	2	3	4	5
The doctor's competence level	1	2	3	4	5
The doctor's personal manner	1	2	3	4	5
The amount of information provided to me by the doctor	1	2	3	4	5
My communication of information to the doctor	1	2	3	4	5
The doctor's communication skills	1	2	3	4	5
The communication of my desires to the doctor	1	2	3	4	5
The doctor's knowledgeability	1	2	3	4	5
My role in deciding on a treatment plan	1	2	3	4	5

HOW DID THE DOCTOR BEHAVE IN COMPARISON TO HOW YOU EXPECTED HIM/HER TO BEHAVE DURING THIS CLINIC VISIT? Please read each statement and rate the degree to which your expectations about the doctor's behavior were met using the following 5-point scale.

	Greatly Fell Short of My Expectations				Greatly Exceeded My Expectations
The doctor's helpfulness in helping me put into words the kind of medical help that I want	1	2	3	4	5
The doctor's willingness to discuss my concerns	1	2	3	4	5
The amount of empathy shown to me by the doctor	1	2	3	4	5
The doctor's explanation of what s/he was going to do	1	2	3	4	5
The doctor's reassurance	1	2	3	4	5
The doctor's assurance that it was alright to call him/her if I had any questions	1	2	3	4	5
The doctor's training	1	2	3	4	5

	Greatly Fell Short of My Expectations				Greatly Exceeded My Expectations
The amount of attention shown to me by the doctor	1	2	3	4	5
The degree to which the doctor keeps up with the latest medical discoveries	1	2	3	4	5
The doctor's carefulness	1	2	3	4	5
The doctor's show of respect for me	1	2	3	4	5
The doctor's giving me a chance to voice my concerns	1	2	3	4	5

HOW DID YOU BEHAVE IN COMPARISON TO HOW YOU EXPECTED TO BEHAVE DURING YOUR CLINIC VISIT? Please read each statement and rate the degree to which your expectations were met using the following 5-point scale.

	Greatly Fell Short of My Expectations				Greatly Exceeded My Expectations
My asking the doctor what I needed to know about my problem and treatment	1	2	3	4	5
My finding out as much as possible about my condition	1	2	3	4	5
My asking the doctor to explain more clearly what I was suppose to do	1	2	3	4	5
My telling the doctor how I would like things done	1	2	3	4	5
My repeating the doctor's instructions back to him/her	1	2	3	4	5
My asking the doctor for all the information s/he had regarding my condition	1	2	3	4	5
My discussing treatment plans with the doctor and my choosing the plan that I preferred	1	2	3	4	5
My asking the doctor about any problems s/he may anticipate	1	2	3	4	5
My finding out information regarding my condition from the doctor	1	2	3	4	5
My deciding with the doctor the most acceptable treatment	1	2	3	4	5

HOW DID YOUR EXPERIENCE AT THE CLINIC VISIT COMPARE TO YOUR EXPECTATIONS? Please read each statements and indicate the degree to which your expectations were met using the following 5-point scale.

	Greatly Fell Short of My Expectations				Greatly Exceeded My Expectations
The individualized attention given to me by the x-ray and cast technicians	1	2	3	4	5
The ease of getting through to the clinic by phone	1	2	3	4	5
The ease of parking at the clinic	1	2	3	4	5
The friendliness of the doctor's nurses	1	2	3	4	5
The reasonable fees at the clinic	1	2	3	4	5
The comfort of the clinic waiting room	1	2	3	4	5
The individualized attention given to me by the doctor's nurses	1	2	3	4	5
The ease of getting an appointment at the clinic	1	2	3	4	5
The explanation of payment policies	1	2	3	4	5
The crowdedness and noisiness of the waiting area	1	2	3	4	5

	Greatly Fell Short of My Expectations				Greatly Exceeded My Expectations
The friendliness of the x-ray and cast technicians	1	2	3	4	5
The clinic's filing of insurance forms	1	2	3	4	5
The individualized attention given to me by the receptionists and cashiers	1	2	3	4	5
The length of time I had to wait to see the doctor	1	2	3	4	5
The staff's interest in serving me	1	2	3	4	5
The convenience of the clinic's hours	1	2	3	4	5
The friendliness of the receptionists and cashiers	1	2	3	4	5
The clinic's use of up-to-date equipment	1	2	3	4	5

****

SO WE CAN GROUP PEOPLE FOR STATISTICAL PURPOSES, PLEASE COMPLETE THE FOLLOWING. Circle the appropriate category.

1. Are you: Male Female

2. Are you: Married Not Married

3. Are you: Under 18 18-24 25-34 35-44
45-54 55-64 65-74 75 or older

4. What is the highest level of education you have completed?

Eighth grade or less Some high school High school graduate
Trade/technical school Some college College graduate
Some post graduate work Post graduate degree

5. For statistical purposes only, what is your annual household income?

Under $10,000 $10,000-$19,999 $20,000-$29,999
$30,000-$39,999 $40,000-$49,999 $50,000-$59,999
$60,000-$69,999 $70,000 or above

****

Thank you, your help will assist me in completing my degree at LSU. As soon as possible, please return the questionnaire in the stamped, addressed envelope provided. Remember, I would really like to thank you by giving you a gift certificate to Mansur's Restaurant. But to enter the drawing you must fill out and return the pre-addressed, stamped postcard that you were given at the clinic. The winner will be notified through the mail by April 30, 1990.

TERI SHAFFER
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Appendix B: Estimation of Models without Performance

Table B.1
Standardized Structural Parameter Estimates
and T-Values
for Patient Satisfaction Submodel
without Performance

Proposed Relationships From ----- To	Parameters (T-Values)
Ideal expectations ----- Disconfirmation	.175 (1.04)
Expectations ----- Disconfirmation	.293 (1.75)
Expectations ----- Satisfaction	.117 (0.90)
Disconfirmation ----- Satisfaction	.593* (4.33)

Model Fit

Chi-square	.27 (n=55, DF=1, Prob. < .601)
Chi-square	.71 (n=131, DF=1, Prob. < .399)
GFI	.997
AGFI	.973
RMSR	.015
Structural Equations (R^2)	
Disconfirmation	.175
Satisfaction	.420

*, **, ***, significant at .05, .01, and .001, respectively.

Table B.2
Standardized Structural Parameter Estimates
and T-Values
for Doctor Satisfaction Submodel
without Performance

Proposed Relationships From ----- To	Parameters (T-Values)
Ideal expectations ----- Disconfirmation	.190 (1.55)
Expectations ----- Disconfirmation	.540* (4.38)
Expectations ----- Satisfaction	.131 (1.00)
Disconfirmation ----- Satisfaction	.657* (4.93)

Model Fit

Chi-square	.00 (n=55, DF=1, Prob. < .960)
Chi-square	.01 (n=131, DF=1, Prob. < .935)
GFI	1.00
AGFI	1.00
RMSR	.000
Structural Equations (R^2)	
Disconfirmation	.406
Satisfaction	.554

*, **, ***, significant at .05, .01, and .001, respectively.

Table B.3
Standardized Structural Parameter Estimates
and T-Values
for Staff Satisfaction Submodel
without Performance

Proposed Relationships From ----- To	Parameters (T-Values)
Ideal expectations ----- Disconfirmation	.042 (0.29)
Expectations ----- Disconfirmation	.511* (3.53)
Expectations ----- Satisfaction	.203 (1.34)
Disconfirmation ----- Satisfaction	.747* (4.70)

Model Fit

Chi-square	1.46 (n=55, DF=1, Prob. < .226)
Chi-square	3.80 (n=131, DF=1, Prob. < .051)
GFI	.986
AGFI	.858
RMSR	.033
Structural Equations (R^2)	
Disconfirmation	.280
Satisfaction	.759

*, **, ***, significant at .05, .01, and .001, respectively.

Table B.4
Standardized Structural Parameter Estimates
and T-Values
for Access Mechanisms Satisfaction Submodel
without Performance

Proposed Relationships From ----- To	Parameters (T-Values)
Ideal expectations ----- Disconfirmation	.104 (.785)
Expectations ----- Disconfirmation	.589* (4.45)
Expectations ----- Satisfaction	.508* (3.14)
Disconfirmation ----- Satisfaction	.316 (1.94)

Model Fit

Chi-square	1.06 (n=55, DF=1, Prob. < .303)
Chi-square	2.76 (n=131, DF=1, Prob. < .097)
GFI	.990
AGFI	.896
RMSR	.031
Structural Equations (R^2)	
Disconfirmation	.394
Satisfaction	.557

*, **, ***, significant at .05, .01, and .001, respectively.

VITA

Teri Root Shaffer was born on January 1, 1958 in Castro Valley, California. She grew up in Alameda, California graduating from St. Joseph Notre Dame High School in 1976. She studied Sociology at the University of California at Santa Barbara and received a Bachelor of Arts with Honors in 1981. In the year that followed her undergraduate studies, Teri spent working and traveling in Europe. Upon returning to the United States, she took a position in the retail industry in San Fransisco, California.

In August of 1982, her husband, Gary P. Shaffer, received a graduate fellowship to complete his doctorate in marine sciences at Louisiana State University. After working in the travel industry in Baton Rouge, Louisiana for several years, Teri decided to return to graduate school and pursue a master's degree in Marketing. Teri found that she really enjoyed the field of marketing and the academic environment. From the recommendation of several faculty members at Louisiana State University she decided to continue her graduate studies at that university. She received her Ph.D. in Business Administration in May of 1991 (major field: Marketing, minor field: Social Psychology; supporting field: Quantitative Business Analysis).

DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Teri Root Shaffer

Major Field: Business Administration (Marketing)

Title of Dissertation: A Role Theoretical Model of Consumer Satisfaction with Professional Services

Approved:

David L. Sherrell
Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

Date of Examination:

March 1, 1991